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ABSTRACT

This volume comprises the final report of a project to develop curricula for eight vocational and technical occupations as well as copies of the curricula themselves. The individual curricula address the following occupational areas: automotive repair, computer technology, dental assisting, diesel and heavy equipment mechanics, electronics, food occupations, nursing assisting, and word processing. Each curriculum contains some or all of the following: a discussion of the nature and scope of the given occupation, a statement concerning the need for workers in the occupation, a description of the target student audience of the curriculum, a list of objectives and job competencies, an hourly breakdown of the curriculum content, a list of courses included in the curriculum, an instructional outline comprising suggested activities and procedures for their implementation, a listing of classroom techniques and teaching methods to be used in the curriculum, a description of facilities needed to present the curriculum, an instructor's job description, a list of teacher performance responsibilities, and a brief discussion of plans for job placement and follow-up. Concluding the guide are a sample certification of completion and completer profile. (MN)

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Final Report

Project No. #83-ANE(110)NB

Clark County Vocational Skills Center

Curriculum Development Project
Conducted Under
Public Law 94-482

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January 1984

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The project reported herein was performed pursuant to a grant from the Research Coordinating Unit of the Washington State Commission for Vocational Education. Contractors undertaking such projects under the Commission for Vocational Education sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Commission for Vocational Education position or policy.

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January 18, 1984

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I. SUMMARY OF REPORT

As outlined in the interim report of May 1983 Data Gathering, staff selection and site visitation objectives were completed.

During June, July and primarily August, the Skills Center staff utilized task analysis, competency checklists and sample curriculums to develop written curriculums for eight instructional programs.

During September and October these written curriculums were reviewed by advisory committees with revisions added.

Final typing and editing of the eight written curriculums occurred during December. The curriculums were stored on a word processing system for ease of updating and modification.

I. BODY OF THE REPORT

A. Problem

In 1974 a study conducted by Educational Service District #112 determined the need for a vocational skills center to meet the vocational training needs of Clark County high school youth in a cost effective manner. In 1981, a cooperative agreement was signed by the school boards in four districts and later two more districts joined the cooperative. Through their efforts the facility has been constructed and completed in the fall of 1983 with eight programs in operation.

In order to maximize cost effectiveness, it was necessary to plan strategies, facilities and programs for the ultimate in benefit to students and local school districts. And, since vocational facilities and equipment were very costly, it was difficult for one school district to meet the total student needs in vocational education. This uniqueness involved meeting the specific job needs of the area and cooperating with Clark College. It was also essential that students and school personnel be made aware of the Skills Center. In order to do a well-planned and complete job, additional funds were needed.

B. Objectives

The major objective of this proposal was to develop thirteen programs during the year from September 1, 1982 to August 31, 1983 for $22,000.00 under the direction of Skills Center Director, Mr. Michael Bjur. These programs were cut to the following eight: Auto Mechanics, Computer Technology, Commercial Foods, Dental Assisting, Diesel and Heavy Equipment Mechanics, Industrial Electronics, Nursing Assisting, and Word Processing.

Sub-objectives were:

1. Visit other programs to gain a more complete knowledge of successful program components.
2. Devise a timeline and process of program development that included advisory committees and program development input.
3. Hire personnel to help member district staff and student awareness of program offering as well as develop a public relations timeline and program.
4. Attend professional development programs, meetings and seminars to keep current in all areas and trends in Vocational Education.
5. Develop Certificates of Proficiency or Competency for program completors.
6. Employ staff during the summer of 1983 to coordinate curriculum and equipment purchase and installation.
7. Development of a process to determine the eight programs to open the center with in the fall of 1983.
8. Develop job descriptions and evaluation criteria for Skills Center teaching staff.
9. Gather sample Certificates of Proficiency and develop completor certificates for each skills center program.

10. Develop a Leadership Development component to be infused in each curriculum.
11. Develop an evaluation plan for the project which included a review from a team made up of the RCU coordinator and other members designated by the host district superintendent.

Personnel for this project included the director, secretary, and consultants.

C. Description

The first phases of the project involved data gathering through an Eric search, curriculum review by the Northwest Curriculum Management Center, and visitations to skills centers and community colleges to gather sample curriculums.

The next major phase of this project produced the development of job descriptions and selection of teachers for eight programs. Once staff members were selected they were given packets of sample curriculums and specifications for competency based curriculums.

These eight staff members were contracted during the month of August to recieve inservice on curriculum construction and for the purpose of preparing competency based curriculum.

Draft copies of the curriculums were reviewed by the Director and craft advisory committees. Revisions were made as necessary. Final copies of the written curriculum were shared a second time with advisory committees for adoption and with the Skills Center Administrative Council.

Copies of the final curriculums are enclosed with this final report.

D. Evaluation

As outlined in the proposal, formative evaluation of curriculum projects was conducted in consultation with staff from the State Superintendent of Public Instruction's office, advisory committee members, and the Skills Center Director.

A summative informal evaluation has been conducted by S.P.I. program staff and the Skills Center Director. The result being S.P.I. approval of eight new programs at the Clark County Vocational Skills Center.

AUTO MECHANICS

I. OCCUPATIONAL IDENTIFICATION:

The Auto Mechanic program is a two year program for junior and senior students who have made an occupational choice which is suited to their needs and who have the interest and ability to benefit from such instruction.

The program provides a continuous three-hour block of time in shop or related classroom, five days per week. Length of course - 1080 hours. The laboratory and related instruction shall be based upon an analysis of craft entry standards which includes the skills, attitudes and knowledge required to achieve the objectives of the program. The basic principles of science and mathematics, with emphasis upon safety instruction, are integrated into the instructional units.

Upon completion of the program, the student should be capable of entering the automotive field as an apprentice mechanic or service technician with possible employment in garages, dealerships, field organizations, highway maintenance shops, or in factory maintenance.

The Dictionary of Occupational Titles indicates a graduate of this program will be eligible for the following occupations:

Automobile Mechanic	620.261-010
Supervisor, Garage	620.131-014
Front End Mechanic	620.281-038
Transmission Mechanic	620.281-062
Tune up Mechanic	620.281-066
Squeak, Rattle, and Leak Repairer	620.364-010
Automobile-Mechanic Apprentice	620.261-012
Automobile Tester	620.261-014
Automobile-Repair	620.261-018
Air-Conditioning Mechanic	620.281-010
Automotive Technician	620.281-014
Brake Repairer	620.281-026
Carburetor Mechanic	620.281-034
Brake-Drum-Lathe Operator	620.682-010
Automobile-Mechanic Helper	620.684-014
Used-Car Renovator	620.684-034

II. NEED:

The advisory committee unanimously agreed that there is a need for this type of training in this community. They were in agreement that students coming out of the Skill Center training would have an easier time entering the Apprenticeship program. "Job Opportunities Forecast for Washington State, 1976-82" published by C.V.E. indicates a need for nearly 5,000 workers in auto and related jobs over the next six years.

They also indicate an 1870 replacement rate. Clark County is probably one of the fastest growing areas: therefore, demands will no doubt be higher in this area.

III. STUDENT CHARACTERISTICS:

Junior and senior students who have an interest in employment in the field of Auto Mechanics. This program is job training and not for a hobby. Students will be recommended by Vocational Counselors and/or Auto Shop instructors.

It is recommended that students be enthusiastic, willing to work hard, have high average grades, and some experience or training with engines or auto shop.

IV. OBJECTIVES AND JOB COMPETENCIES:

The primary purpose of the Auto Mechanic program is to provide the student with the necessary skills and knowledge to obtain entry level employment in the Automotive Mechanics trade.

As a result of this instruction and supervised shop experience, the student shall:

1. Be able to perform operations which show a basic understanding of the diagnostic and repair procedures in the automotive mechanic crafts and be capable of making on-the-vehicle use of industrial testing and servicing equipment.

2. Demonstrate the ability to service and repair the electrical, carburetion and other engine systems of the automobile with the entry level standards of the automotive mechanic craft.

3. Exhibit a safety awareness which is reflected in good work habits including cleanliness and safety practices.

4. Demonstrate the necessary technical knowledge and comprehension of scientific, mathematic and mechanical principles to make good trade judgments.

5. Exhibit qualities of self-confidence, initiative, excellence in performance, a cooperative attitude, and an appreciation of craftsmanship as needed for employment in the automotive mechanics craft.

6. Demonstrate the ability to correctly use and care for hand tools, power tools, and equipment of the trade, which is necessary for safe and correct usage.

7. Exhibit qualities of leadership for effective participation in organizations affiliated with the automotive mechanics trade.

8. Learn to think clearly and logically.

9. Exhibit an awareness and understanding of the necessity and value of continuing education.

10. To develop automotive service skills and knowledge sufficient for acceptable job-entry performance.

11. To instill desirable attitudes toward work and the quality of performance.

12. To develop respect for the rights and property of fellow workers, managers, and customers.

13. To develop safe work habits.

14. To instill good leadership skills.

15. To establish cognitive and psychomotor daily work.

V. CURRICULUM CONTENT

DRIVE TRAIN
(185 hours)

40 hrs.	Basic Engine principles theory
30 hrs.	Advanced Engine principles theory
10 hrs.	Cooling Systems
10 hrs.	Lubrication Systems
10 hrs.	Exhaust Systems
40 hrs.	Transmissions Automatic Manual
20 hrs.	Clutches Torque Converters
5 hrs.	Drive Line Service
20 hrs.	Rearend Differential

GENERAL
(55 hours)

10 hrs.	Leak and Squeak
15 hrs.	Auto Body Care
20 hrs.	Scheduled Maintenence
10 hrs.	Fastening Devices

SUSPENSION
(95 hours)

5 hrs.	Wheel Bearings
10 hrs.	Wheels and Tires
20 hrs.	Wheel Balancing
60 hrs.	Suspension Systems
	Steering Systems
	Wheel Alignment

LAB PROCEDURES
(117 hours)

5 hrs.	Orientation
40 hrs.	Safety
20 hrs.	Hand Tools
15 hrs.	Welding Oxy-Ace (Arc Optional)
15 hrs.	Cutting Torch
10 hrs.	Micrometers
12 hrs.	Shop Cleanup Procedures

ELECTRICAL
(140 hours)

40 hrs.	Basic Theory
10 hrs.	Battery
10 hrs.	Starting
20 hrs.	Charging
30 hrs.	Ignition
20 hrs.	Chassis Wiring
10 hrs.	Gauges

BRAKES
(60 hours)

60 hrs.	Theory
	Power Disc
	Master Cylinder
	Brake Lathe
	Rebuilding Skills

TUNE
(170 hours)

40 hrs.	Scope Operation
	Scientific Diagnosis
40 hrs.	Emissions and Electronic Controls
30 hrs.	Air Conditioning
30 hrs.	Basic Fuel Systems
30 hrs.	Advanced Fuel Systems

CLARK COUNTY VOCATIONAL SKILLS CENTER
AUTOMOTIVE PROGRAM

HUMAN SKILLS
(258 hours)

15 hrs.	Communications
3 hrs.	Dictionary of Automotive Terms
15 hrs.	Organization and Maintenence of Workstation
20 hrs.	Ordering Parts Writing Repair Orders
5 hrs.	Test Driving
10 hrs.	Finding Specs
60 hrs.	Lab Performance Flat Rate
20 hrs.	Human Relations
5 hrs.	Time Management
5 hrs.	Transactional Analysis
20 hrs.	Job Finding Skills
80 hrs.	VICA

CURRICULUM COURSES

1. Basic Services Procedures
   Brake recon, four wheel alignment, tune up etc.

2. Specialty Procedures
   Dist. recon. A/C tune, etc.

3. Theory
   Physics, mathmatics, electronics, engine & trans. etc.

4. Related Instruction
   Communications, economics, fair trade practices

5. Shop Management
   Accounting, personnel, distribution of workload

6. Customer Relations and Merchandising
   Salesmanship, psychology, courtesy, manners, education

ORIENTATION

A. Occupation Outlook
   1. Info Sheet
   2. Places That Employ Auto Mechanics
   3. Student Requirements
   4. Steps involved in Automotive Shopwork

B. Information
   1. Personal Info. Sheet
   2. Medical History

C. Testing

After completion of this unit, the student should be able to list facts concerning the occupational outlook of Auto Mechanics and steps involved in Automotive shopwork. This knowledge will be evidenced by scoring 85% on the unit test.
Specific objectives
List facts concerning the occupational outlook of Auto Mechanics. List places that employ Auto Mechanics. List student requirements for the Auto Mechanics program. Name steps involved in automotive shop work.
Complete personal data sheet and medical history.
The student will know the program grading policy.

VICA

A. Club Organization
   1. Social Activities
   2. Civic Activities
   3. Fundraisers
   4. Skills & Leadership Competition
   5. Educational

The student will develop an understanding and appreciation of the VICA organization.

B. Officers
   1. Boss vs. Leader
   2. Definition of Leader
   3. Officer Duties
   4. Officer Elections

The student will recognize the need for leadership & organization.

C. Leadership Cycle
   1. Planning
   2. Action
   3. Control

The student will develop an appreciation and understanding of leadership.

D. Parliamentary Procedure
   1. Five Basic Princples
   2. Primary Motions
   3. How a Motion Should Progress
   4 Amendments

The student will engage in parliamentary procedure activities

E. Committees 1. Why Committees Fail 2. Do's of a Successful Committee 3. Standing Committees 4. Special Committees	The student will perform leadership activities as a committee leader.

SAFETY

A. Personal Safety 1. Eye Protection 2. Proper Clothing 3. Unsafe Conditions 4. Cleanup	The student will know the dangers of shop work and the procedure to take precautions against them.
B. Shop Safety 1. Electrical 2. Fire Hazards 3. Floor Cleanup 4. Shop rules	The student will develop and display good shop safety conscience.
C. Equipment Safety 1. Proper Operation 2. Warning Signs of Trouble 3. Good Maintenence 4. Hand Tools	The student will have understanding of shop equipment safety procedures and knowledge of potential and real dangers.
D. Safety codes and O.S.H.A 1. Define O.S.H.A 2. Safety color Code	Student will know safety codes and be able to Define O.S.H.A
E. Rules and Regulations 1. Shop Rules 2. Personal Safety Rules 3. Skills Center Rules	The student will know the shop rules and regulations and apply them.
F. Fire Prevention 1. Fire Triangle Lable 2. Classes of Fires 3. Types of Extinguishers 4. Match Extinguishers w/ Fires	The student will be able to identify the types of fires, and the types of fire extinguishers and their operation.
G. Safety Inspection and Pledges 1. Individual Shop Inspection 2. Safety Test 3. Safety Pledge	The student complete a shop inspection. the student will take a safety test that must be passed by 90% or better to gain access to the shop lab and have a safety contract signed by student and parents.

HANDTOOLS

A. Purpose of Tools
   1. Good Tool Use Habits
B. Identify Tools
   1. Screwdrivers
   2. Pliers
   3. Wrenches
   4. Components of Socket Sets
   5. Special Purpose Tools
   6. Hammers
   7. Punches
   8. Chisels
   9. Files
   10. Parts Cleaning Tools
   11. General Shop Tools
   12. Battery Tools
   13. Electrical Tools
   14. Ignition Tools
   15. Fuel System Tools
   16. Exhaust Tool
   17. Cooling System Tools
   18. Lube Tools
   19. Brake Tools
   20. Front and Align Tools
   21. Engine Repair Tools
   22. Drive Line Service Tools
   23. Tune-up Tools
   24. Measuring Tools
C. Testing
   1. Identify Tools
   2. Identify Tools Proper Usage

From a flash card & actual tool identification test students will be able to correct list and spell to an accuracy of 85%
The student will be able to identify hand tools, general shop tools, and special tools for each major area of vehicle repair.
The student should be able to sharpen and repair specific hand tools. This knowledge will be evidenced through demonstration and by scoring 80% on test.

WELDING

A. Oxy Acetylene Cutting
   1. Match Terms to Definitions
   2. Identify parts of Torch Outfit
   3. List Rules for Safe Handling of Oxygen and Acetylene
   4. Identify Types of Cutting Flames
   5. List Reasons for Poor Cuts
   6. Describe Backfire
   7. Describe Flashbacks

After completion of this unit, the student should be able to set up, light, adjust and turn off an oxy acetylene cutting outfit following the proper order and safety precautions. The student should be able to make a 90% cut on mild steel. This knowledge will be demonstrated and tested.

B. Demonstrate Ability to:
   1. Set up Equipment
   2. Turn on, Light, Adjust to Neutral Flame, and Turn Off Oxy-acetylene Cutting Equipment
   3. Make 90% Cut on Mild Steel
   4. Test on Cutting

FUSION WELDING

A. Oxy/Acetylene Welding
   1. Match Terms to Definitions
   2. Identify Equipment Parts
   3. List Factors of a Good Weld
   4. List Factors that Determine Tip Size
   5. List Factors that Determine Type of Filler Rod
   6. Identify types of Welding Flames

The student will be able to demonstrate the ability to light, adjust, and turn off the oxy-acetylene welding equipment. Handle the Equipment properly and make welds with or without filler rod.
The student will be able to select proper tip size and list factors that determine the correct type of filler rod to use. This knowledge will be evidenced through demonstration and by scoring 80% on the test.

B. Demonstrate Ability
   1. Turn on, Light, Adjust, and Turn Off the Torch
   2. Construct a Corner Weld Without Filler
   3. Lay Beads With and Without Filler Rod

C. Written and Lab Tests of Proficiency

MICROMETERS

A. Written Skills
   1. Select from a list the types of measurements found on outside micrometers
   2. Identify the major parts of an outside micrometer
   3. List steps in selecting the proper size outside micrometer
   4. List rules for use and care of micrometers
   5. Define the term feel in using a micrometer
   6. Discuss the proper methods of checking accuracy of a 0"-1.000" micrometer and a micrometer of more than 1"

B. Demonstrate Lab Techniques
   1. read plain micrometer setting
   2. Read vernier micrometer settings
   3. Measure a crank journal with plain micrometer
   4. Measure cam journal with vernier micrometer

C. Written Test

The student will be able to use, identify, care for and read the common type of outside micrometers found in the shop. This knowledge will be evidenced through demonstration and by scoring 80% on the test.

BASIC ENGINE PRINCIPLES

A. Engine Theory
   1. Match terms to definitions
   2. Discuss characteristics of energy
   3. List types of energy
   4. List forms of available energy
   5. List the types of motion
   6. Identify types of simple machines
   7. List the uses of simple machines
   8. Calculate problems using the formula for work
   9. Calculate problems using the formula for horsepower

The student will be able to list the characteristics, types, and forms of energy and calculate problems dealing with work, horsepower, torque, and cubic inch displacement. The student should be able to distinguish between internal and external combustion engines and describe the operation of two stroke and four stroke cycle engines. This knowledge will be evidenced by scoring 80% on the test.

10. Calculate problems using the formula for torque
11. Describe the characteristics of heat engines
12. Distinguish between external and internal combustion engines
13. Match the parts of a basic internal combustion engine to the correct descriptions
14. Describe the process by which an automobile engine converts chemical energy to rotary motion.
15. Discuss the operation of a four-stroke cycle engine.
16. Discuss specific valve
17. Discuss the operation of a two stroke cycle engine beginning with the piston positioned at the bottom of the cylinder.
18. State the formula for calculating engine cubic inch displorement.
19. Explain the results of increasing the compression ratio.
20. Identify the components of an automobile engine.
21. Distinguish between gasoline and diesel engines.
22. Discuss the purpose of a heavy flywheel.
23. Theory Test

The students will understand the theory of operation of the modern automobile engine. This knowledge will be evidence by scoring 80% on the Theory Test.

A. Cooling Systems Theory
   1. Write the purpose of the cooling system.
   2. Match terms associated with the cooling system to the correct definitions.
   3. Distinguish between types of thermostats.
   4. Describe the operation of the thermostat when the engine is cold and when the engine is at operating temperature.
   5. List jobs that the cooling system must perform. List systems radiator affects.
   6. Distinguish between a down flow and a cross flow.

The student will be able to describe the construction and operation of the cooling system. The student should demonstrate the ability to pressure test, inspect, and repair the cooling system. This knowledge will be evidenced through demonstration and by scoring 80% on the test.

7. Describe methods of cooling the internal combustion engine.
8. Identify types of radiator hoses.
9. Describe pressure cap operation thru cold-hot-overheating temperatures.
10. Describe the operation of the variable-speed fan drive.
11. List reasons for using a permanent antifreeze solution in the cooling system at all times.
12. Describe the operation of a coolant recovery system.

B. Cooling System Lab
1. Remove, check, and replace a thermostat.
2. Remove and replace a water pump.
3. Remove and replace a radiator.
4. Pressure test the cooling system.
5. Remove, inspect, and replace V-belts.
6. Test antifreeze solution.

The student will achieve working hands-on knowledge in proper procedures and good work habits. VIA: lab experience knowledge and skill will be evidenced by demonstration.

ENGINE LUBRICATION

A. Lubrication Theory
1. Match terms associated with the lubrication system to the correct definitions.
2. List the purposes of the engine lubrication system.
3. Identify the components of the lubrication system.
4. Match the components of the engine lubrication system to the correct purposes.
5. Identify the types of oil filters.
6. Name the methods of classifying engine oil.
7. Discuss oil viscosity classifications.
8. Match oil service designation letters to the correct descriptions.
9. List points to consider when selecting engine oil.
10. List additives found in Engine oil.

The student will be able to identify components of the engine lubrication system and match the components to the correct purposes. The student should be able to identify types of oil filters and list additives most commonly used in engine oil. The student should be able to discuss oil classifications and demonstrate the ability to change the and filter of an engine. This knowledge will be evidenced through demonstration and by scoring 85% on the test.

B. Lab Exercises
1. Change oil in an Engine.
2. Change an oil filter.
3. Locate and repair oil leaks.

EXHAUST SYSTEMS

A. Exhaust Theory
1. Write out the purpose of the exhaust system.
2. Match terms associated with the exhaust system to the correct definitions.
3. Identify types of mufflers.
4. Describe the operation of the manifold heat control valve.
5. Describe the construction and operation of a catalytic converter.
6. Identify tools used for exhaust system service.
7. Distinguish between single and dual exhaust system.
8. List safety precautions for preventing carbon monoxide poisoning
9. Discuss the causes of internal and external corrosion of the exhaust system.
10. Identify the basic components of the exhaust gas recirculating system.
11. Discuss the purpose of the exhaust gas recirculating system.

The student will be able to describe the construction and operation of a conventional exhaust system and a system with a catalytic converter. The student will be able to replace components of the exhaust system. This knowledge will evidenced thru demonstration and by scoring 85% on the test.

B. Lab Exercises
1. Service a manifold heat control valve.
2. Remove and replace an exhaust manifold
3. Remove and replace an exhaust pipe.
4. Remove and replace a muffler.
5. Remove and replace a catalytic converter and its heat shields.
6. Remove and replace a tail pipe.

The student will demonstrate the ability to service and repair all components of the exhaust system. Skill will be measured by performance test.

FUEL SYSTEMS

A. Fuel Systems Theory
   1. Write the purpose of the fuel systems
   2. Define terms associated with the fuel systems.
   3. List the purpose of each of the components of the fuel system.
   4. Describe the fuel pump operation during the inlet and outlet strokes.
   5. Identify the types of fuel filters.
   6. Identify the types of air filters.
   7. Identify parts of carburetors.
   8. Match the carburetor systems with the correct use.
   9. Match gasoline additives to the correct purposes.
   10. Discuss fuel injection.
   11. List the variations of fuel injection systems.

the student will be able to identify the components and write the purpose of the fuel system.
The student will be able to service the fuel system. This knowledge will be evidenced through demonstration and by scoring 85% on the test.

B. Lab Exercises
   1. Volume and pressure test a fuel pump.
   2. Remove and replace fuel pump.
   3. Service an air cleaner.
   4. Remove and replace a carburetor
   5. Disassemble adjust, and reassemble a carburetor.

The student will be able to service and repair all components of the fuel systems. Performance testing.

BASIC ELECTRICAL THEORY

A. Electrical Theory
   1. Match terms associated with basic electrical theory to the correct definitions.

The student will be able to identfy types of electrical circuits, basic electrical symbols, and testing instruments.

2.	Match the parts of an atom to the correct electrical values.	The students will be able to discuss factors concerning electrical flow, voltage, amperage, and ohms and characteristics of magnetism and electromagnetism.
3.	Describe electricity according to the electron theory.	
4.	State the basic factors of electrical flow in a circuit	The student should be able to demonstrate the ability to construct series and parallel circuits. This knowledge will be evidenced thru demonstration and by scoring 85% on the test.
5.	Discuss the relationship of voltage, amperage, and ohms to current flow.	
6.	State Ohm's Law and how it relates to automotive electrics.	
7.	Calculate problems dealing with ohms law.	
8.	List factors which affect resistance in a conductor.	
9.	Identify basic electrical symbols	
10.	List the components of a basic electrical circuit.	
11.	Identify types of electrical circuits.	
12.	Identify instruments used for testing electrical circuits.	
13.	Match the test instruments with the correct method of connecting them.	
14.	Match the basic electrical circuit failures to the correct causes.	
15.	Select from a list, the characteristics of magnetism.	
16.	Select from a list the characteristics of electromagnetism.	
17.	Describe electromagnetic induction.	
18.	List factors which determine magnitude of induced voltage.	

B.	Lab Exercises	The student will demonstrate the ability to construct a series and parallel circuit.
1.	Demonstrate the ability to construct a series circuit.	
2.	Demonstrate the ability to construct a parallel circuit.	

BATTERY

A. Battery Theory
   1. Match terms associated with batteries to the correct definitions.
   2. List the functions of the battery.
   3. Match the parts of the battery to the correct purposes.
   4. Select from a list the processes by which a battery converts chemical energy to electrical energy.
   5. List factors affecting battery voltage and capacity.
   6. Match the types of battery ratings to the correct descriptions.
   7. Select from a list safety rules to be observed during the care and maintenance of batteries.
   8. Describe the features of a service free battery.

B. Lab Exercises
   1. Clean and service a battery.
   2. Remove and replace a battery.
   3. Measure battery electrolyte with a hydrometer.
   4. Load test a battery.
   5. Charge test a battery for three minutes.

The student will be able to list the functions of the battery and select from a list the processes by which it converts chemical energy into electrical energy.
The student will select safety rules from a list, explain battery ratings, and demonstrate the ability to service and load test a battery. This knowledge will be evidenced through demonstration and by scoring 85% on the test.

STARTING SYSTEM

A. Starting System Theory
   1. Match terms associated with the starting system to the correct definitions.
   2. State the purpose of the starting system.
   3. Describe the operating principle of the starter.
   4. Discuss the magnetic principle of the starter.
   5. Describe the current flow in a series wound starter.
   6. List the components of the starting system.
   7. Name the types of starter switches.
   8. Identify the parts of a starter.
   9. Identify the parts of a gear reduction starter.
   10. Identify the types of starter drives.
   11. Identify the components of a starter control circuit.
   12. Match starting system control circuit components to their functions.

B. Lab Exercises
   1. Load test a starter.
   2. Test starter circuit resistance.
   3. Test starter control circuit resistance.
   4. Remove and replace a starter.
   5. Disassemble, check, and reassemble a starter.
   6. Disassemble and reassemble a gear reduction starter.

The student will be able to state the purpose of the starting system, identify the starting system components and discuss the magnetic and operating principles of a starter.
The student will be able to demonstrate the ability to perform starting systems tests and bench tests and repair a starter. This knowlidge will be evidenced thru demonstration and by scoring 85% on the test.

CLARK COUNTY VOCATIONAL SKILLS CENTER
AUTOMOTIVE PROGRAM

CHARGING SYSTEM

A. Charging System Theory
   1. Write the purpose of the charging system.
   2. Match terms associated with the charging system to the correct definitions.
   3. Match the charging system components to the correct purposes.
   4. Identify the major parts of a generator.
   5. Identify the major parts of an alternator.
   6. Distinguish between a generator and an alternator.
   7. List advantages of an alternator over a generator.
   8. Explain why an alternator produces more current at lower speeds than a generator.
   9. Discuss the construction of a starter.
   10. Identify types of stator windings.
   11. Describe the current and voltage regulators for alternators.
   12. Identify the types of voltage regulators for alternators.

B. Lab Exercises
   1. Remove and replace a generator.
   2. Disassemble, check, and reassemble a generator.
   3. Remove and replace an alternator.
   4. Disassemble, check, and reassemble and alternator.
   5. Test current output of an alternator.
   6. Test external type voltage regulator.
   7. Test internal type voltage regulator on vehicle.

The student will be able to identify the components of the charging system. The student will be able to demonstrate the ability to remove, replace, disassemble, and reassemble a generator and alternator. This knowledge will be evidenced thru demonstration and by scoring 85% on the test.

CLARK COUNTY VOCATIONAL SKILLS CENTER
AUTOMOTIVE PROGRAM

CHASSIS WIRING

A. Theory and Diagnosis

The student will be able to read a wiring diagram and test for short, open, and ground circuits. The student will be able to locate electrical problems using a systematic approach and make wiring repairs. This knowledge will be evidenced thru demonstration and by scoring 85% on the test automobile.

1. Match terms associated with chassis wiring to the correct definitions.
2. Identify common electrical symbols.
3. Identify electrical terminals and connectors.
4. Name the types of bulbs used in an
5. Label the parts of a sealed beam lamp.
6. Distinguish between hot and ground circuits.
7. Lists facts about voltage drop.
8. Lists facts about current draw.
9. Distinguish between single and two-wire circuits.
10. Identify electrical test instruments.
11. Arrange in order, steps in diagnosing electrical problems.
12. Select from a list characteristics of a wiring diagram.
13. Label the parts of a typical circuit identification code.
14. Read a wiring diagram.
15. Trouble shoot an electrical circuit.
16. Demonstrate the ability to correctly wire and color code a wiring diagram.

B. Lab Exercises

The student will demonstrate skill and knowledge in chassis wiring lab.

1. Install a soldered terminal.
2. Install a solderless terminal.
3. Splice a wire (solder method).
4. Splice a wire (solderless method).
5. Remove and replace a bulb.
6. Align headlights.
7. Remove and replace a sealed beam.
8. Remove and replace a headlight switch.
9. Remove and replace a power window motor.

10. Test circuit with voltmeter.
11. Test electrical motor current draw.
12. Wire circuit board.

IGNITION SYSTEMS

A. Ignition Theories

1. Match terms associated with the ignition system to the correct definitions.
2. State the purpose of the ignition system.
3. Identify the components of the ignition system.
4. Match the components of the ignition system to the correct functions.
5. Identify the components of a distributor.
6. Distinguish between the components of the primary and secondary ignition circuits.
7. Discuss in writing the operation of the ignition system through one complete cycle, beginning with the battery.
8. Identify the parts of a spark plug.
9. Label spark plugs according to heat range.
10. Match causes to spark plug conditions.
11. Name the types of secondary ignition cables.
12. Distinguish between the transistorized and capacitive discharge ignition systems.
13. Discuss the relationship of the electronic ignition system to the conventional ignition system.
14. List advantages of the electronic ignition system

The student will be able to identify the components of the various ignition systems and match the components to their functions. The student will be able to discuss the operation of the ignition system and demonstrate the ability to service the ignition system. This knowledge will be evidenced through demonstration and by scoring 85% on the test.

15. Identify the major components of an electronic ignition system.
16. Match the major components of the electronic ignition system to the correct functions.
17. Arrange in order the operation of the electronic ignition system.

B. Lab exercises
1. Check and set ignition timing.
2. Remove and replace the distributor.
3. Remove and replace contact points and condenser.
4. Adjust dwell on an externally adjustable distributor.
5. Test and adjust distributor on distributor tester.
6. Remove, inspect, service, and replace spark plugs.
7. Diagnose and repair bugs in an electronic ignition type distributor.

WHEEL BEARINGS

A. Class room study
1. Match terms associated with wheel bearings to the correct definitions.
2. Identify the types of wheel bearings.
3. Identify the parts of a tapered roller wheel bearing assembly.
4. List characteristics of quality wheel bearing grease.
5. State precautions to observe while packing wheel bearings

The student will be able to identify types of wheel bearings and parts of a tapered roller wheel bearing assembly and perform necessary maintenance on the assembly. This knowledge will be evidenced through demonstration and by scoring 85% on the test.

B. Lab exercises
   1. Clean and inspect a bearing.
   2. Adjust front wheel bearings.
   3. Pack a front wheel bearing assembly.

CHASSIS

A. Wheels and tires
   1. Functions of tires.
   2. Parts of tire.
   3. define tire plys.
   4. Identify tire size
   5. List proper tire cord
   6. Identify types of wheels.
   7. Identify the parts of a wheel.
   8. Patch a tire leak.

The student will understand the types of tire construction and be able to identify the types, abnormal wear patterns, and tire size markings identification. The knowledge will quizzed.

B. Wheel balancing
   1. Match terms associated with wheel balancing to the correct definitions.
   2. List advantages of balancing wheels.
   3. Discuss the types of wheel balance.
   4. State the conditions which would require rebalancing of the wheels.
   5. Identify the types of wheel balances.
   6. Discuss the types of wheel weights and their uses.

The student will be able to identify the types of wheel balancers and state reasons for balancing wheels. The student will be able to check tire and and wheel remount, and balance a tire and wheel assembly. This knowledge will be demonstrated and tested by 85% score.

C. Lab exercises
   1. Check tire and wheel remount.
   2. Static balance a wheel and tire assembly.
   3. Spin balance a wheel off the car.
   4. Spin balance a wheel on the car.

SUSPENSION SYSTEM

A. Suspension Theory

1. State the purposes of the suspension system.
2. Define terms associated with the suspension system.
3. Identify types of suspension systems.
4. Identify the parts of an independant front suspension.
5. Identify the parts of a coil spring solid axle rear suspension.
6. Discuss the types of suspension springs.
7. Identify the parts of a leaf spring.

The student will be able to state the purposes, define terms, and identify parts associated with the suspension.

B. Lab Exercises

1. Inspect and replace shock absorbers.
2. Inspect a front suspension for wear.
3. Repair an upper control arm assembly.
4. Replace a Ball Joint (optional)

The student will be able to inspect parts and make repairs on the suspension system. This knowledge will be evidenced thru demonstration and by scoring 85% on the test.

STEERING SYSTEM

A. Steering Theory

1. Write the purposes of the steering system.
2. Match terms associated with steering systems to the correct definitions.
3. Identify parts of a steering system.

The student will be able to identify parts of the steering systems.

4. Name steering parts which should be inspected for wear, adjustment, and damage.
5. List types of manual steering gears.
6. Identify parts of a recirculating ball nut and worm manual steering gear.

The student will be able to inspect, repair, and adjust a manual steering system; and reseal a power steering pump. This knowledge will be evidenced thru demonstrating skills and by scoring 85% on tests.

7. List types of power steering pumps.
8. Describe types of power steering systems.

B. Lab Exercises
1. Inspect a steering system for damaged parts or wear.
2. Remove and replace a tie rod end.
3. Pressure test a power steering system.
4. Remove, reseal, and replace a power steering pump.
5. Remove, recondition, and replace a steering box.

WHEEL ALIGNMENT

A. Wheel Alignment Theory
1. Write the purpose of wheel alignment.
2. Match the wheel alignment angles to the correct definitions.
3. Match the wheels alignment angles to the correct purposes.
4. List preliminary steps to wheel alignment.

The student will be able to write the purpose of wheel alignment and match wheel alignment angles by the correct definitions and purposes.

B. Lab Exercises
1. Preliminary checks.
2. Front end alignment.
3. Four wheel alignment.

The student will be able to demonstrate the ability to make preliminary wheel alignment checks before the alignment and then align the automobile. This knowledge will be evidenced through demonstration and by scoring 85% on the test.

BRAKE SYSTEM

A. Brake Theory
1. Write the purpose of the brake system.
2. Match terms associated with the correct definitions.

The student will be able to describe brake operation and identify the parts of the Brake System.

3. Identify components of the standard brake system.
4. Identify components of the tandem or dual Brake System.
5. Identify the parts of a standard master cylinder.
6. Identify the parts of a tandem master cylinder.
7. Identify the parts of a wheel cylinder.
8. Identify the parts of a standard brake assembly.
9. Identify the types of self-adjusting brake systems.
10. Describe brake operations.

B. Lab Exercises
1. Adjust brake shoes.
2. Bleed the brake system.
3. Remove, inspect, turn, and replace brake drums and discs.
4. Remove and replace brake shoes and parts.
5. Remove, recondition and replace wheel cylinder.
6. Remove, recondition, and replace a master cylinder. Tandem (Optional)
7. Remove and replace brake hardware.

The student will be able to demonstrate the ability to remove, turn, and replace brake drums and discs, replace brake shoes and pads, replace brake hardware, recondition wheel cylinders, master cylinder calipers, and adjust and bleed the brake system. This knowledge will be evidenced thru demonstration and by scoring 85% on the Test.

POWER DISC BRAKES

A. Disc Brake Theory
1. Match terms associated with power disc brakes to correct definitions.
2. Identify the major components of the Disc Brake System.
3. Match the components of the Disc Brake System to the correct functions.
4. List the types of Disc Brake Calipers.
5. Identify the parts of a floating caliper Disc Brake.
6. List good characteristics of Disc Brakes.

The student will be able to identify the components of various disc brake systems and match the components to their functions.

7. Discuss reasons that Disc Brakes may require power Booster units.
8. List sources of energy for power boosters.
9. List the types of vacuum operated power boosters.
10. Identify the major parts of a vacuum operated power booster.
11. Identify the major parts of a hydro-boost power booster.
12. Discuss the operation of a vacuum suspended power booster.
13. Discuss the operation of the atmospheric suspended power booster.
14. Discuss the operation of the hydro-boost power boosters.
15. List the requirements of super heavy duty brake fluid.
16. Discuss conditions that are considered normal and are not indications that the master cylinder needs service.
17. Identify the parts of the parking brake systems on four wheel disc brakes.

The student will be able to discuss the operation of each type of power booster and demonstrate the ability to test and repair a disc brake system. This knowledge will be evidenced thru demonstration and by scoring 80% on the Test.

B. Lab Exercises
1. Test the Hydraulic system.
2. Test the vacuum power booster.
3. Repair a sliding caliper disc brake.
4. Check disc runout and thickness.
5. Turn and swirl polish rotors.

CAREER DEVELOPMENT

A. Student Organizations
1. VICA
   a. Organization
      1) Officers
      2) Committees
      3) Classroom/Lab Management
   b. Program of Work
   c. Competitions

The student will describe the structure of VICA. Each student will participate in a committee.

2. Committees
   a. Types
      1) Standing
      2) Special
   b. Ingredients
      1) Members
      2) Purpose
      3) Time to Report

The student shall: distinguish between standing and special committees: list the purposes of each type of committee: know the 3 main requirements used in forming a committee: serve on a committee.

c. Organizational Structure 1) Chairman 2) Secretary 3) Sub Committee	
3. Parlimentary Procedures a. Agenda c. Appearance d. Facial expression e. Positive and negative gestures f. Responding to non-verbal communication	The student shall: state verbal communication and provide examples.
D. Professional Ethics 1. Occupational Code of Ethics 2. Need for ethics	The student will practice sound judgement through classroom activities.
E. Time Management 1. Time Wasters a. Phone calls b. Inability to say "no" c. Unclear goals d. Apathy e. Interruptions f. Procrastination	The student will be able to analyze time losses by completion of a daily time log. The student will list ten time wasters and methods to correct these wasters.
2. Set Goals for Your Time a. Daily b. Weekly c. Monthly	The student will write down two goals aimed at better use of his/her time.
3. Get a Grip on Time a. Get organized b. Eliminate time barriers	The student will demonstrate improved time management by completing and following a one week time plan.
4. Time Saving Tips and Strategies	The student will list ten time saving tips.
F. Transactional Analysis 1. Maturity a. Think and act as adults b. Make comparisons of attitudes c. Create business environment d. Responsibilities of adulthood 1) Financial 2) Emotional 3) Scholastic	The student will develop the ability to converse and get along with others. Aware and able to "cope" with people and understand their problems. Use diplomacy in alleviating problems or potential problems.
2. Initiative and Motivation a. Provide proper directions b. Clearly state the rewards c. Have clear-cut goals d. Give precise instructions e. Be thorough f. Be a good "sounding board"	Student is inquisitive and explores alternate solutions. Constantly seeking new knowledge. Develop a committment to school and work world.

3. Self Discipline and Responsibility a. Be a good example b. Clearly state the rules c. Display trust and reliability d. Delegate responsibility e. Be consistent and sincere	The student will be able to diplomatically accept and correct situations as a result of constructive criticism. Ability to monitor and schedule time effectively, and to proceed with little or no supervision.
4. Five Steps to Learning a. Develop interest b. Create desire c. Which develops into enthusiasm d. And gets results e. Reinforcement and praise create inertia	
G. Job Finding Skills 1. Analyze Job Market a. Job requirements b. Projected growth c. Career progressions d. Personal goals e. Skills assessment	The student will demonstrate the ability to research the needs of the industry and personal needs and goals.
2. Job Search a. Newspaper b. Yellow pages c. Trade journals and business publications d. Network - word of mouth e. Employment offices f. Vocational instructors	The student will research available sources and will list all possible job opportunities.
3. Resume a. Describe resume function b. Essentials of resume c. Preparation techniques	The student will write a resume that would be acceptable to an employer in the particular career.
4. Application Forms/ Cover & Follow-Up Letters	The student will successcomplete an application form and compose suitable career search correspondence.
5. Personal Appearance a. Cleanliness b. Grooming c. Dress d. Posture e. Image projection	The student will demonstrate acceptable appearance when applying for a job.
6. Selling Oneself/Interview Techniques a. Communicate b. Research interviewing employer	The student will demonstrate leadership skills while practicing the personal interview.
7. CCVSC Follow Up & Placement Procedures	The student will understand follow up and placement procedures.

VI. TYPE OF INSTRUCTION

Classroom

1. Lecture
2. Discussion
3. A/V
4. Resource

Shop

1. Hands-on Activity
2. Team Work

VII. FACILITIES:

A. Rooms and Square Foot Area

1. Shop Area (7,500 S.F.)

Two overhead, power-operated doors with safety stops 12 ft. x 12 ft. (Min.). Personnel door beside each overhead door.

Room for 10 cars, with stalls no less than 13 ft. wide and 26 ft. long. Sixty degree angular stalls preferred.

Five twin-post, frame contact hoists to be all on one side of shop. One equipped with wheel alignment equipment.

Alignment stall to be at one end and have no slope to floor.

Perimeter work benches, metal topped with vises.

Minimum 16 ft. ceiling.

Central floor drains (3 or 4 as required).

40 Lockers - built in 12" x 12" x 36"
20 Lockers - built in 14" x 14" x 28" (Tool box storage)
(Preferred under work benches)

2.	Lecture and Resource	500 S.F.
3.	Office	99 S.F.
4.	Office Supply	117 S.F.
5.	Tool Room (Dutch type door on tool room)	200 S.F.
6.	Storage	340 S.F.
7.	Locker, Wash Area	364 S.F.
8.	Steam Cleaning (shared)	190 S.F.
9.	Compressor (shared)	27 S.F.
10.	Flammable Liquids (shared)	45 S.F.
11.	Total Sq. Ft.	9,382 S.F.

B. Outside Work or Storage

5000 S.F. (fenced)

3000 S.F. (covered included above)

Outside storage for 12 cars with 10 ft. high fence and a 12 ft. lockable gate.

C. Service Considerations

Water available at each end of shop plus one in overhead reel with lubrication equipment.
120 V receptacle and compressed air at each stall (36" from floor).
Pull down, reel-type light at each space between stalls.
Floor exhaust system with flexible rubber pipes at each car stall.
Blower mounted on roof or outside for noise control.
Four 240 V welder outlets. One on each wall.
Underground oil disposal facility.
Approved outside flammable liquid storage facility.
Drinking fountain.
Outside wash rack with hot and cold water, electrical, and drain.
Electrical safety switches on each wall to kill shop power.
Light-sensing, controlled outside lighting of storage areas.
Wash-up sink, foot operated (9 students at a time).

D. Important Inter-Relationships

Steam cleaning
Flammable liquids storage
Dynomometer

E. Important Intra-Relationships

The shop should be directly related to all peripheral area associated with this discipline.

Lecture room and office to be located so clear view of entire shop is available to supervisor.

F. Critical Environmental Considerations

High ceiling in shop.
Flourescent lighting.
Space heaters in shop.
Suspended ceilings in classroom and office.
Concrete floors except for tile in classroom and office.
Adequate ventilation, heating and cooling.
Air compressor in sound-proof area.

VIII. Advisory Committee:

The auto mechanics advisory board met on a regular basis during the planning of the facility, program, and curriculum. Members are:

Name	Representing	Employer	Employee
Robert J. Buckley	Sow Electric Corporation		x
David Chun	Supertune	x	
Ray Cochran	CCVSC Instructor		x
Richard A. McAuliff	Wolf Supply Co.		x
A.C. Nutter	AC's Specialty	x	
Mike Saunders	Evergreen Automotive Instructor		x
Thomas J. Slama	Dabney Wheel Alignment		x
Brent J. Williams	Dutchies Auto Parts		x

See attached minutes from Advisory Committee meetings.

IX. INSTRUCTOR'S JOB DESCRIPTION:

1. The instructor must have completed the apprenticeship training, have been a journeyman for 3 years or have at least 7 years in the trade. This experience should be recent. He must be able to be vocationally certified. The instructor should have an ability to organize and put across information to students and to give the needed skills.

   In-depth instruction will include three hours of classroom and laboratory activities. The instructor will work closely with industry groups and a representative advisory committee in developing the program curriculum and in the placement of program completors in jobs.

2. Qualifies for or willing to meet qualifications for vocational teaching certificate.

3. Supervisory experience and/or teaching experience preferred.

4. Demonstrated ability to relate to young people.

5. Demonstrated skills in human relations.

6. Demonstrated ability to be organized.

7. Ability to perform routine basic maintenance on automotive equipment.

8. Interest in student leadership development.

9. Demonstrated professional growth through participation in inservice and professional organization involvement.

CLARK COUNTY VOCATIONAL SKILLS CENTER
AUTOMOTIVE PROGRAM

PERFORMANCE RESPONSIBILITIES

1. Provide sound learning environment and instructional program.

2. Teach one or two sections, depending on enrollment.

3. Develop and update curriculum competencies, working in cooperation with an industry advisory committee.

4. Work with other instructors in the sending high schools or at the community college to maintain a good working relationship and a positive Skills Center image.

5. Provide the development of student leadership, an understanding of the free enterprise system, and human relations as an integral part of the curriculum.

6. Work with cooperating high schools in program promotion and student recruitment.

7. Maintain individual student records and report progress to appropriate personnel.

8. Develop, meet with, and maintain an effective advisory committee.

9. Assume supervisory (student) responsibilities as assigned.

10. Organize, manage, and appropriately maintain the instructional facility, equipment, and resources which will serve as a positive model to students and provide for a safe working environment.

11. Keep current professionally by taking related courses, returning to business during the summer, and maintaining involvement in professional organizations.

12. Participate in inservice activities conducted by the Evergreen School District and the Skills Center Director.

13. Maintain contact with the industry through visitations.

14. Establish and work toward short- and long-term goals aimed at improving the program and instruction.

15. Perform other duties as assigned.

X. PLANS FOR JOB PLACEMENT & FOLLOW UP

Competencies will be estabalished for each task. Students will be evaluated against the competencies on each phase of training. Job placement and success are criteria for evaluation.

The instructor, through industry contacts and the Skills Center vocational counselor/job development coordinator, will work to place students in jobs upon completion of the program. Follow-up will be completed on a 1-, 3-, and 5-year schedule.

CURRICULUM

COMPUTER TECHNOLOGY

I. Occupational Identification:

A two-year program for junior and senior high-school students, comprised of the following courses:

A) Introduction to Computers and Data Processing
B) Microprocessor operating systems
C) Introduction to BASIC programming
D) Business systems analysis and design
E) Introduction to Structured COBOL

Designed to provide a good background in various types of Computers; their architecture, manufacturer and application capabilities. 'Hands-on' training, using Microprocessors as stand-alone systems under control of operating systems, and also as terminals under control of a networking system (simulating large-scale computer systems). Complete training on operating systems and programming, with emphasis on programming logic and the analysis and design of business systems. 'Role playing' and exposure to the real business world in preparation for entry-level employment.

A graduate of this program will be eligible for one or more of the following occupations, as an entry level employee.

(As referenced by U.S. Dep't of Labor)

Computer Operators - 203.582-022,-026,-030,-046,-070; 206.387-030; 206.685-030; 213.132.010 and -014, .362-010, .382-010 and .685-010

Computer Programmers 020.162-014, .167-018, .167-022, .187-010, .187-014 and 219.367-026

TYPE OF INSTRUCTION (continued)

The first week will be spent on skills center attitudes, requirements and procedures, with introductory lectures, tours and equipment familiarization. Introduction to Data Processing classes will begin the second week, and continue through one-third of the year, with Business Systems analysis and design continuing through the remainder of the year.

Concurrent with these classes, Basic programming will begin about the third week and continue through the first half-year. Advanced students will continue on to Advanced Programming at their own speed. The second half of each class session will be mainly devoted to 'hands-on' experience on the computer systems during 'lab time'. During these sessions, the students will be monitored, directed and assisted to simulate a normal data processing department found in a typical business. The instructor will assume the role of data processing manager, with students fulfilling the systems analyst and programming requirements. 10% of classroom time will be devoted to discussion and emulation of typical data processing procedures, dress mode and development of qualities that make the student "employable".

An evaluation and progress report will be maintained for each student. The report will be updated periodically, will be available for review with the instructor, and will describe to a potential employer the level of accomplishments and tasks performed.

II. N E E D

Computer programmers and systems analysts have consistently been in short supply ! With the advent of microprocessor based systems, advanced technology, and miniturization of components, the computer is in increasing demand for home use as well as a wide variety of businesses.

This has created a multitude of opportunities in software development, education and training, management, sales and consulting.

Employment of programmers is projected to grow faster than the average for all occupations through the 80's as computer usage expands. Between 36,000 and 40,000 jobs are expected to be available each year due to increased demand.

III. STUDENT CHARACTERISTICS

ALL students entering this program should possess some basic skills:

A) Good typing (keyboard) skills
B) Logical analysis and reasoning ability
C) Minimum 1 year of Algebra
D) Aptitude for detail and preciseness

Students are pre-screened as to interest, aptitude and competency by vocation counselors.

Interests will vary from a desire to gain a more complete knowledge of computers to students actively seeking a computer career, and already possessing a great deal of experience and knowledge.

III (a) Objectives and job competencies:

Objectives of the systems analyst , and the desirable attributes are:

1- Ability to get along with people and to converse with all levels of individuals within a company.

2- Aware of the 'people problems' as well as mechanical problems in order to design an effective system.

3- Must have the ability to communicate and the diplomacy to alleviate any potential or real problems concerning people.

4- Intelligence and ability to see the system in its overall status as well as being able to isolate and define minute portions of the system

5- Resourceful and ingenious, inquisitive and enjoy exploring alternative solutions to problems.

6- The ability to communicate clearly and concisely, in both oral and written communications.

7- Familiarity with the terminology, practices and procedures of the business environment in which he will be working

8- A good knowledge of programming and data processing.

Objectives of the programmer, and the desirable attributes are:

1- A general background in areas of business applications and procedur

2- Logical reasoning and analytical ability.

3- Experience using a business oriented computer language.

4- Experience in flowcharting, coding, testing and debugging a fairly complex business oriented computer program.

5- Documenting procedures for ease in programming maintenance

6- Ability to deal on a detailed, precise level with the computer, while maintaining human relation skills of getting along and communicating effectively with fellow employees.

IV (a) TEXTBOOKS AND REFERENCE MANUALS USED :

A- IBM Disk Operating Systems (DOS) 2.0

B- IBM guide to operations for the Personal Computer

C- IBM 'BASIC' for the personal Computer

D- Introduction to Computers and Data Processing
by Shelly & Cashman

E- Introduction to Basic Programming by Shelly & Cashman

F- Business Systems analysis and Design by Shelly & Cashman

G- Introduction to Flowcharting and Computer Programming Logi
by Shelly and Cashman

H- Introduction to Structured Cobol by Shelly and Cashman

IV (b) COMPUTER TECHNOLOGY
CLASSROOM GENERAL RULES :

A- Class begins at 8:10AM and 12:30PM respectively. You are tardy thereafter.

B- Enter and exit by your classroom door only.

C- Written excuses signed by parent/guardian are required for all absences.

D- When you are absent, it is your responsibility to check with the teacher for information on what was covered during your absence.

E- Student will not leave class without instructor's permission and pass.

F- No classroom visitors in class without clearance from Administration Office.

G- No smoking anywhere on campus.

H- No eating or drinking in this building.

I- Students may not leave class to make phone calls, except and only with instructor's permission.

J- Restroom must be used by one student at at time. The student will log time out and time in. Two five-minute sign-outs per student allowed each day only.

K- Always bring pencil, paper and materials to class.

L- Always work independently on equipment unless you do not understand how to use the equipment; then ask instructor for assistance.

M- Textbooks are furnished by the Skill Center. If texts are damaged or lost, cost of damage or replacement must be paid by the student prior to release of grades. Diskettes and other supplies will be available for sale. Students are not permitted to use diskettes not authorized by the computer instructor.

N- Electrical cords must be inserted or removed from the wall outlets with the plug only, not the cord.

IV (b) Continued :

O- Electrical cords must not be strung out where they can trip someone, interfere with work stations, or cause any other safety problems.

P- Equipment must be turned "off" before inserting paper or servicing ribbon.

Q- "Playing", hitting, tripping, or hopping around is not professional, safe or allowed.

R- Before working with any electrical equipment, make sure you are not wet from rain, etc.

S- Only one person at-a-time is allowed to operate each computer terminal, unless instructor designates otherwise.

STUDENTS SIGNATURE

DATE ___/___/___

COMPUTER TECHNOLOGY STUDENTS NAME _____

DATE OF EVALUATION: ____/____/____ PERIOD COVERED _____

INTERPERSONAL COMPETENCIES:

4	3	2	1	
				CONFIDENCE-Believes in self; others respect, admire and emulate.
				PERSEVERANCE-Continues difficult tasks until completed.
				COMPREHENSION-Pays attention and "catches on" to ideas/situations.
				INITIATIVE-Finds work to do without being told; is self-motivated; is first one to begin work.
				RELIABILITY-Does tasks assigned without constant supervision.
				TACT-Is careful not to hurt other's feelings or cause anger.
				LOYALTY-Stands up for personal values and fully supports supervisor
				ENTHUSIASM-Demonstrates desire to learn and please; eager, earnest zealous worker.
				COOPERATION-Demonstrates willingness to work as a team member and assist others.
				ADAPTABILITY-Adjusts to changes in schedules, job assignments, supervisors.
				SAFETY CONSCIOUS-Observes safety rules and regulations.
				HOUSEKEEPING-Maintains tools, equipment and work stations.
				ORAL EXPRESSION-States information in a clear, logical order.
				SOCIABLE-Makes friends easily and is open-minded.
				GROOMING-Dresses appropriately for variety of occasions.
				LEADERSHIP-Gets others to cooperate and channel their efforts towards a common goal.
				POISE-Maintains self-control.

ACADEMIC COMPETENCIES

				Grasps concepts quickly.
				Approaches problems with logic and clear reasoning.
				Uses lab time effectively.
				Contributes to classroom discussions and projects.
				Completes work assignments on a timely basis.
				Is precise, well-organized and thorough.
				Completes additional non-assigned projects.

GRADING SUMMARY	GRADING POLICY
Punctuality and attendance	15%
Interpersonal competencies	25%
Completion of assignments	30%
Test Results	30%

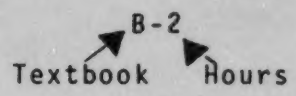
RATING

1= Excellent
2= Moderate skills;above average
3= Limited skills; average work
4= Unacceptable performance level

B-0

V(A) AN INTRODUCTION TO THE DISK OPERATING SYSTEM (DOS)

1. Starting the IBM-PC



Upon completion, the student will able to;

A) Identify all components of the system
B) Demonstrate proper handling procedures
C) Demonstrate 'power-up' and starting procedures
D) Demonstrate familiarity with the keyboard.

2. Starting 'DOS'

B-2

Student will demonstrate ability to:
A) Start 'DOS'
B) Enter Date
C) Enter Time
D) Identify 'DOS' prompts
E) Change default drives
F) Identify control keys and their function

3. About 'Diskettes'

B-1

Student will demonstrate:
A) Proper handling procedures
B) Storage layout on disk
C) Write-protect procedures

4. Using 'DOS'

A-4

Student will demonstrate method of:
A) Loading 'Basic' into memory
B) Running 'Basic' Samples
C) Entering and executing a BASIC program
D) Starting the BASIC program
E) Changing a statement
F) Adding a statement
G) Deleting a statement

V (b) INTRODUCTION TO 'BASIC' PROGRAMMING

Starting 'BASIC' C-2, E-2	Review of BASIC- some duplication of V (A) 4.- Using DOS
1. Computers and Computer Programming E-3	The student will have familiarization with: A) Various computer systems B) Basic D/P cycle C) Functions of a computer program D) I/O, arithmetic & logical operation E) Program development cycle
2. Input/Output programming E-8	The student will understand: A) Program development and coding process B) Logic- 'looping' C) REM,DATA,READ,IF,PRINT,GOTO, & END statements D) Numeric & string variables and constants E) Good programming techniques
3. Arithmetic Operations E-8	The student will have a knowledge and understanding of: A) BASIC statements to perform arithmetic operations B) How to round numeric values C) The 'print using' statement for editing fields D) The TAB statement for controlling output E) How to design a program requiring calculations, accumulations and printing final totals
4. Comparing E-8	The Student will have a knowledge and demonstrated use of: A) The 'if-then-else' logic structure B) The single entry/single exit rule for the if-then-esle logic structure C) The basic 'if' statement and how it should be written D) Relation operators E) Differences between string and numeric comparisons

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5. More on Comparing E-4	The Student will possess an undesstanding and familiarization with : A) The nested if-else-then logic structure B) The logic operators AND,OR and NOT C) Internally storing numeric data and considerations when conparing same D) The TRON,TROFF,STOP and CONT debuging statements
6. Looping-Interactive programming E-5	The student will have a knowledge and familiarization with: A) Interactive processing B) The INPUT statement with appropriat prompting C) Looping and the LOOP logic structur D) The FOR and NEXT statements for looping
7. Arrays E-8	The student will have the knowledge an ability to: A) Define and load arrays B) Sequentially search an array for a known value and extract the corresponding element from anather array. C) Binary search technique D) Define and load multi-dimension arrays
8. Menus,Arrays, Subroutines, and sorting E-10	The Student will have knowledge and ability to: A) Define and use menus used in interactive programs B) Design and code programs using the case structure C) Use arrays in a variety of applications D) Design and write an exchange sort E) Design a program by decomposing the program into a series of functional modules
9. String processing E-12	The Student will have the understandin and ability to: A) Create a personalized letter using the string functions B) Edit data using the string function: C) Use the string funcsions available with most BASIC interpreters D) Search strings for delimiters and substrings E) The desing process for a program requiring numerous modules

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10. Files, Report generation and functions

C-12

The Student will obtain knowledge and familiarity with:

A) Creating a disk output file and reading the data on a disk file into main memory for processing
B) The BASIC statements used to process disk files
C) The functions of string functions available with most BASIC interpreters'
D) TRIG functions and other functior of the BASIC language which can t useful for certain applications
E) Control break processing and the logic required to produce a control break report

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V (C) INTRODUCTION TO COMPUTERS AND DATA PROCESSING

1. An introduction to the computer D-2	The student will demonstrate familiar ization with: A) Basic data processing cycle; input processing and output B) The function of a computer C) Types of equipment found in typica computer centers D) Functions and responsibilities of: 1-Computer operator 2-Data Entry operator 3-Tape librarian 4-Programmer 5-Systems Analyst E) Different sizes and types of comp- uters
2. The evolution of the Electronic Computer industry D-2	The student will exhibit awareness an understanding of: A) Development of computer hardware B) Role of computer software in histo of computing industry C) Important contributions from peopl in evolution of computer industry D) Major companies involved and their contribution E) Excitement and vitality of the com uter industry
3. Processing data on a computer system D-2	Student will develop understanding of: A) The input/process/output basic processing cycle B) The operational capabilities of a computer system; I/O, arithmetic and logical operations C) The capability of a computer to stc data for use at a later time D) Data storage and retreival,inquiry processing, update processing and sorting E) Control break processing, classif- ying, selecting and summarizing dat Manipulation of data fro production of useful information
4. The processing unit D-2	Student will demonstrate understanding A) How data is stored in main memory and auxiliary storage units B) The EBCDIC coding scheme C) Storing and referencing characters and fields from main memory D) Elements comprising a computer inst ruction and methods of execution E) Variable and fixed word length mach ines

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5. Input to the computer system D-2	The student will develop an understanding of: A) Difference between 'batch' and 'transaction oriented' processing systems B) Punched cards, magnetic tape and magnetic disk as input media for 'batch' oriented processing systems C) 'Dumb' VS 'intelligent' terminals as input devices for the transactio oriented processing systems D) Processing cycles for batch and transaction oriented processing systems E) Need for editing input data prior to computer processing
6. Obtaining output from the computer D-2	The Student will develop a knowledge and awareness of: A) Types of output available from computer systems B) Printers available; their speeds, advantages and disadvantages C) Characteristics of a CRT terminal D) Creation and use of detail, summary and exception reports E) Use of CRT terminals in transaction oriented systems for inquiry; factors to be considered in developing inquiry systems
7. Auxiliary storage and file organization D-2	Student will develop familiarization and knowledge of: A) Need for auxiliary storage B) Magnetic tape;storage and access of data C) Sequential and random access method: D) File organization methods: 1-Sequential 2-Relative or direct 3-Indexed
8. Data communications D-2	The student will obtain a basic knowledge of: A) Components of a modern data communications network B) Line speeds and modes of transmissions C) Line configurations D) Ways to establish contact when using various line configurations E) Data communications networks F) Computer operations in a data communications environment

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9. Data base and distributed data processing D-2	The student will obtain basic knowledge and understanding of: A) Interrelationships of data within an organization B) Reasons for a data base C) Components of a data base and methods of storing and accessing data D) Concepts of distributed data processing E) Need for distributed data bases and methods used
10. Systems analysis and design D-2	Student will develop understanding and familiarity with: A) Structure of the D/P department and its function within the organization B) Five phases utilized in a systems project C) Tools used in systems analysis and design D) Major business systems applications
11. Program design and flowcharting D-6	The student will develop an understanding of: A) Reasons for review of program specifications B) The flowchart as a program design tool C) Three control structures found in structured programming D) Structured design E) Egoless programming and structured 'walk-throughs' F) Logic required to solve seven problems commonly found in business applications programming
12. Program languages--coding and testing programs D-2	The student will develop a basic knowledge and understanding of: A) The most widely used programming languages--ForTran, PL/1,COBOL, RPG, BASIC and Pascal B) Compilers and interpreters C) Program testing procedures D) The role of program documentation E) The role and use of operating systems

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13. The future of computers in society	The student will develop an awareness of: A) The problems faced by D/P professionals in the years ahead B) Ethical considerations confronting those in Data Processing C) The problems facing society with utilization of data banks and electronic funds transfer systems D) Potential threat posed to freecom and privacy by computer systems

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V (D) BUSINESS SYSTEMS ANALYSIS AND DESIGN

1. Introduction to systems analysis and design

F-6

The student will demonstrate a complete understanding of:

A) Definition, reason and examples of systems and procedures
B) Types of business enterprises and their functions
C) Business information processing systems
D) Company structures
E) Lines of authority
F) The systems & procedures department
G) The data processing department
H) Conducting a systems project
I) The case study
J) The systems analysis profession
K) Work environment and procedure

2. Initiation of the systems project--preliminary investigation

F-8

The student must have a demonstrated understanding of the following:

A) The origination of systems projects
B) Evaluation of systems projects
C) The preliminary investigation:
   1-The objectives
   2-Understanding the problem
   3-Defining the scope of the project
   4-Defining costs and benefits
   5-Estimates for detailed investigati and systems analysis
   6-Presentation to management
D) Conducting a preliminary investigati
   1-organization charts
   2-Letter of authority
   3-Conducting interviews
   4-Resistance to change
   5-Reviewing documentation
   6-Presentation of findings
   7-The systems review committee

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3. Detailed systems investigation and analysis

F-10

The student will have demonstrated knowledge of:

A) The detailed systems investigati
B) The sysyems analysis (who,where, what, when & why)
C) Steps in the detailed systems investigation and analysis
D) Review the organization structure
E) The interview
F) Questionaires
G) Obtaining copies of the operating procedures
H) Observing current operating procedures:
   1-Methods of examining operations
   2-Review transactions
I) Forms involved
J) Recording the facts
K) Summary of fact-gathering phase
L) Analysis of facts
M) Presentation of findings
N) Presentation techniques
   1-Defining the audience
   2-Define the objectives
   3-Organizing the presentation
   4-Defining the terms
   5-Prepare auxiliary materials
O) The presentation
   1-Selling reliability
   2-Control of the presentation
   3-Answering questions
   4-Good speaking techniques

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4. Design of systems outpt

F-12

Student will demonstrate a thorough knowledge and understanding of:

A) Purpose of systems design phase
B) Steps in systems design
   1-Design system output
   2-Design system input
   3-Design of files & processing
   4-System design presentation to Mgn't
C) Designing the system output
D) Review types of output available
E) Types of specialized output
F) Microfilm output
G) CRT terminal output
H) Plotters
I) Audir response units
J) Common output mediums:
   1-The printed report
   2-The punched card
   3-Other forms of output
K) Defining uotput requirements
L) Defining the content of the reports
M) Designing the reports
   1- Detailed printed reports
   2- Exception report
   3- Report with totals
   4- Multi-level control breaks & total
   5- Summary reports
N) Designing reports
   1- Reports with special characters
   2- Reports with totals
   3- Continous forms
   4- Space control on continous forms
O) Uses of output information
P) Disposition of output

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5. Design of systems input

F-12

Student will demonstrate familiarity and working knowledge of:

A) Types of data entry devices
   1-Card punches & verifiers
   2-Magnetic tape
   3-Floppy disk
B) Optical character readers
C) Terminals
   1-Intelligent terminals
   2-Additional data entry hardware
D) Design of system input
E) Determined the input data required t
   produce the required output
F) Determining the source of data to
   produce the output
   1-Data originating from a single
     source document
   2-Data calculated or originated by
     the computer program
   3-Data extracted from several source
     outside the program
   4-Data originating from tables
   5-Two-dimensional tables
G) Determining the method of data entry
H) Determining the format of input data
   1-Design of source documents
I) Design of input records
   1-Record length
   2-Size of fields
   3-Coding of input data
J) Types of codes
K) Classification codes

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6. Design of system files

F-12

The student will have a demonstrated knowledge of:

A) Methods of file storage

B) Punched card files
   1-Advantages & disadvantages

C) Magnetic tape files
   1-Tape transport speed
   2-Blocking of records
   3-Record formats
   4-Fixed length records
   5-Variable length records
   6-Undefined length records
   7-Blocking and record formats
   8-Advantages & disadvantages of magnetic tape

D) Magnetic disk systems - advantages and disadvantages

E) Additional file storage devices

F) File organization & retreival methods

G) Sequential file organization

H) Sequential file updating

I) Direct file organization

J) Indexed sequential file organization

K) Indexes--advantages & disadvantages

L) File design criteria
   1-Accessibility
   2-Activity
   3-Capacity
   4-Processing speed
   5-Costs

M) Designing the files
   1-Storing numeric data
   2-Field sizes
   3-Blocking considerations

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7. Design of systems processing

F-12

Student will have demonstrated skil and knowledge of:

A) File processing
   1-Editing-batch systems
   2-Editing-on-line systems

B) Sorting
   1-Updating-general
   2-Updating-sequential batched
   3-Updating-random batched
   4-Updating-random on-line
   5-Complex updating
   6-Updating more than 1 file
   7-Random & sequential updating
   8-Reporting-batch systems
   9-Reporting-on-line

C) Backup considerations
   1-Transaction files
   2-Master files
   3-Indexed sequential & direct file
   4-Frequency of backup

D) File retention
   1-Transaction files
   2-Master files
   3-Legal requirements

E) Restart considerations & checkpoint

F) Role of the operating system in file processing
   1-Multiprogramming
   2-Utility programs

G) System planning
   1-Program & File identification
   2-Program specifications

H) Start-up processing

I) Document and information flow

J) Documenting the system flow

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8. Design of system controls

F-12

The student will have a total awareness and knowledge of:

A) Types of controls

B) Source document control
1-Batching

C) Input controls

D) Input controls-on-line

E) Processing controls

F) Types of controls

G) Group controls-list & balance

H) Group control cards

I) Individual record checking

J) Test for numeric data

K) Test for alphabetic data

L) Test for blanks

M) Test for sign of data

N) Test for reasonableness of data

O) Limit tests

P) Range tests

Q) Consistency tests

R) Sequence tests

S) Check tests

T) Output controls

U) Organizational controls
1-Segregation of functions

V) The audit trail

W) Undetectable errors

9. System design approval--- presentation to management

F-8

Student will recognize need for and be knowledgible about:

A) Systems approval
   1-Output reports
   2-Input
   3-File design & processing
   4-Data processing management
   5-Systems approval

B) Presentation to management

C) The written presentation
   1-The management abstract
   2-Review of the new system
   3-Review of the systems development and implementation schedule
   4-Costs analysis
   5-Reccommendations of the analyst
   6-Alternative systems

10. Project management, scheduling and control

F-8

Student will have demonstrated knowledg of:

A) Project management
B) Project planning
C) Defining the major tasks to be accomp lished
   1-Defining the sub-tasks
D) Project scheduling
   1-Programming
   2-Program testing & debugging
   3-Documentation
   4-Training
      a)Hiring new personnel
      b)Training personnel
      c)Management training
E) Project scheduling-file conversion
F) Project scheduling-procurement of hardware, software & supplies
G) Scheduling techniques
   1-Project control
H) Other scheduling techniques
   1-Specification of time
I) Management reporting

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11. Programming assignments and specifications

F-20

Student will have demonstrated knowledge of:

A) Programming languages
1-Capabilities of the programming language
2-Knowledge of the programming staff
3-Cost of the compiler
4-Ease of programming
5-Efficiency of the language
6-Compatibility of the language
7-Types of programming languages
8-Evaluating programming languages
9-COBOL
10-Assembler language
11-RPG (report program generator)
12-Fortran
12-P/L 1
13-Other programming languages

B) Developing the program specifications
1-Description of the system
2-Systems flowchart
3-Program descriptions
4-Definition of input & output
5-File definitions-Narrative form
6-Program definition-flowchart

C) Decision tables

12. Programming, testing and documentation

F-12

Student will have demonstrated competency regarding:

A) Programming
1-Development of the programming logic
2-Coding the program

B) Program testing
1-Testing individual programs
2-Creating test data
3-Link or string testing
4-System testing
5-Backup & restart testing
6-Management and user approval

C) Documentation
1-Program documentation

D) Operations documentation
1-Master run book
2-Console run book

E) Manager and user documentation

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13. Systems implementation and evaluation F-12	Student will have complete understandi of: A) File Conversion 1-File security 2-File security 3-File conversion timing B) Determining the conversion method 1-Direct conversion 2-Partial conversion 3-Parallel conversion C) Systems conversion methods D) Implementation of the system 1-Problem areas during implementatio E) Post-installation evaluation F) Final report to management
14. Current trends in systems analysis and design F-12	Student will have good basic knowledge of concepts and how they apply to previous concepts involving systems. A) Data communications B) Data communications systems C) Data communications systems applications D) Data Base E) Data base design F) Data security G) Data base management systems

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VI. TYPE OF INSTRUCTION

Instruction will consist of 450 total instruction hours per year, based on 2½ hours per day, 180 days per year. Curriculum will consist of 5 major components:

1- Introduction to computers and data processing
2- The IBM-PC : familiarity with the equipment and operating system
3- Introduction to BASIC Programming
4- Business systems analysis and design
5- Development of job competencies

Instruction will consist in varying degrees of the following:

Classroom lecture
Tours to computer centers
Industry films
In-class program and system development projects
Keying and testing of programs (hands-on)

Classroom and lab facility are designed to accomodate 24 students EACH. The lab facility has 24 separate computer stations, consisting of the following equipment:

17 IBM-PC systems
2 IBM-PC XT systems with color graphics
1 Franklin Ace 1000
1 Texas Instruments'Professional Computer'
1 Kay Pro Model II portable
7 Printers

VII COMPUTER TECHNOLOGY ADVISORY COMMITTEE AS OF 8/18/83

NAME	ADDRESS	CAPACITY	PHONE
Mel Cardon	C/O Crown Zellerbach Camas, Wash	Data Process-ing Manager	834-3021
Arlo Peterson	Clark College (Comp.Dept) 1800 E. McLoughlin Blvd Vancouver, Wash 98663	Computer Sciences	699-0130
Terry Miller	Hewlett-Packard 2400 N.E. 65th Ave Vancouver, Wash 98661	Sales Support	254-8110
Darrell Price	Pacific N.W. Telecom P.O. Box C-014 Vancouver, Wash 98668	Mgr. Operations	694-7285
Bill Thomas	Alcoa 5701 N.W. Lower Rd. Vancouver, Wash 98660	Data Processing Manager	696-8651
David Page	Mecos Corp. 8002 N.E. Hwy 99 #257 Vancouver, Wash 98665		574-7078
Dick Maw	City/County D.P. Center 110 E. 13th Vancouver, Wash 98660	Director	699-2381
Karl DeLyria	6018 N.W. 209th Street Ridgefield, Wash 98642	Tech Advisor	627-1941

VIII INSTRUCTOR'S JOB DESCRIPTION

Instruct high school juniors and seniors in skills leading to continous higher education or entry level employment in the computer technology o data processing fields. In-depth instruction will include three hours o classroom and laboratory activities. The instructor will work closely with industry groups and a representative advisory committee in develop ing and upgrading the program curriculum and skills competencies.

QUALIFICATIONS

1- Minumum 5 years varied computer industry experience, working in systems analysis and design; program design and programming; compute applications in varied business sizes and types.

2- Supervisory experience and/or teaching experience preferred.

3- Qualified or willing to qualify for vocational teaching certificate.

4- Demonstrated ability to relate to young people.

5- Demonstrated skills in human relations.

6- Demonstrates ability to organize new curriculum and learning activities.

7- Ability to perform routine basic maintenance on computer input and output equipment.

8- Interest in student leadership development.

9. Demonstrated interest to work with business, industry and labor.

PERFORMANCE RESPONSIBILITIES

1- Provide sound learning environment and instructional program.
2- Teach one or two sections, depending on enrollment.
3- Develop and update curriculum competencies, working in cooperation with an industry advisory committee.
4- Work with other instructors in the sending high schools or at the community college to maintain a good working relationship and a positive skills center image.
5- Provide the development of student leadership, an understanding of the free enterprise system, and human relations as an intergal part of the curriculum.
6- Work with cooperating high schools in program promotion and student recruitment.
7- Maintain individual student records and report progress to appropriate personnel.
8- Develop, meet with and maintain an effective advisory committee.
9- Assume supervisory (student) responsibilities as assigned.
10- Organize, manage and properly maintain the instructional facility, equipment and resources which will serve as a positive model to students and provide for a safe working environment.
11- Keep current professionally by taking related courses, returning to business during the summer, and maintaining involvement in professional organizations.
12- Participate in inservice activities conducted by the Evergreen School District and the Skills Center Director.
13- Maintain contact with the industry through visitations.
14- Establish and work toward short and long-term goals aimed at improving the program and instruction.
15- Perform other duties as assigned.

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CLARK COUNTY VOCATIONAL SKILLS CENTER
DENTAL ASSISTING PROGRAM

DENTAL ASSISTING

I. OCCUPATIONAL IDENTIFICATION

This is a one-year course of study for juniors and/or seniors who have made an occupational choice which is suited to their needs and who have the interest and ability to benefit from such instruction.

The course provides a continuous three-hour block of time in laboratory and related classroom instruction. The laboratory and related instruction shall be based upon an occupational analysis which includes the skills, attitudes, and knowledge required to achieve the instructional objectives for the program. The basic principles of language arts, student leadership, and related theory are integrated into the dental assisting program curriculum.

A graduate of this program will be eligible for the following occupations:

Job Title	D.O.T. Number
Dental Assistant	079.378

II. NEED

The Dental assisting Advisory Committee unanimously agreed to the need for a Dental assisting Program at the Clark County Vocational Skills Center. They expressed a strong need for additional dental assisting technicians in the area. Employment in the field in the Portland area is expected to increase by 10% percent by 1985.

III. STUDENT CHARACTERISTICS

The program will be open to students in the eleventh and/or twelfth grades who have an interest and ability to benefit from such training. They should have a strong interest in dental assisting. They will have the recommendation and approval of vocational counselors and/or a vocational teacher in their chosen area.

IV. OBJECTIVES AND JOB COMPETENCIES

As a result of this instruction and supervised practice, the student shall:

1. Demonstrate a high level of competency in the skills, techniques, and processes used as a dental assisting operator.

2. Exhibit a safety awareness which is reflected in good work habits including cleanliness, orderliness, and habits of safe practice.

3. Demonstrate the ability to properly manipulate and care for the dental assisting/office simulation equipment which is necessary for safe and correct usage.

4. Exhibit qualities of self-confidence, initiative, excellence in performance, a cooperative attitude, and an appreciation of craftsmanship as needed for successful employment.

5. Exhibit qualities of leadership for effective participation in the various organizations affiliated with the dental assisting industry.

6. Exhibit an awareness and an understanding of the necessity and value of continuing education.

7. Develop an awareness of the dental assisting field and career progressions.

8. Develop job seeking skills such as resume preparation, job application, and job interview.

9. Develop communication skills for successful employment.

10. Develop student leadership skills including ability to lead and follow, organize and conduct group activities, and ability to make decisions.

11. Demonstrate proper hygiene in relation to oneself and dental assisting /office simulation equipment.

12. Operate and care for equipment used in dental assisting.

13. Understand basic dental assisting concepts and terminology.

14. Demonstrate management of time, space, equipment and supplies related to an efficient and profitable organization.

15. Discuss how to establish good rapport between employer and employee, between other employees, and with clients and users.

16. Demonstrate how to plan and organize a work schedule.

17. Exhibit abilities to serve clients requiring dental assisting/ secretarial services.

18. Observe and practice proper safety habits around computer hardware and electrical outlets.

19. Demonstrate the ability to take work orders.

20. Demonstrate the ability to read work orders and follow directions.

21. List basic concepts of the free enterprise system.

22. To develop a basic knowledge of gross anatomy, tooth identification, diet, and nutrition.

23. Assist the dentist in all phases of dental procedures in the operatory when PRESCRIBED BY THE DOCTOR.

24. Demonstrate the operation, use and maintenance of the dental equipment in a safe manner.

25. Identify and manipulate materials according to the manufacturer's directions.

26. Develop an understanding of the laboratory procedures performed in the practice of dentistry and to develop skill in perfroming laboratory techniques which can be effectively accomplished by the dental assistant.

27. Develop knowledge in the technique of dental radiography skills in the production of intra oral films.

28. Demonstrate the accepted techniques of patient positioning, film placement, angulation and exposure to obtain desired density according to the dental practice standards.

V. COURSE INTRODUCTION Unit 1

A. Grading Policy 1. Theory tests 20% 2. Theory assignment 10% 3. Clinical performance 55% 4. Attendance	The student will be familiar with the program grading policy.
B. Safety 1. Safety policy 2. Parential consent 3. Clinical safety rules 4. Unsafe acts/conditions	The student will develop and display safety consciousness.
C. ORIENTATION 1. Purpose of Dentistry 2. Degrees and Associations 3. Duties of Dental health team 4. Educational requirements	The student will draw conconclusions about duties, educational requirements, job responsibilities, and career opportunities.
D. HEALTH AND GROOMING 1. Body cleanliness 2. Posture 3. Diet and exercize 4. Clothing 5. Attitude	The student will demonstrate appropriate health and grooming habits in the clinic and office.
E. ETHICAL PROCEDURES 1. State practice act 2. Purpose of ADAA 3. Pledge	The student will exhibit appropriate ethical conduct in the dental profession.

CLARK COUNTY VOCATIONAL SKILLS CENTER
DENTAL ASSISTING PROGRAM

PRE CLINIC UNIT 2

A. SEATING AND GREETING A PATIENT 1. Armamentarium 2. Postition chair 3. Greet and escort patient 4. Seat 5. Adjust light 6. Introductions 7. Dismiss 8. Variations	The student will greet and seat any type of patient. along with making them feel comfortable as possible.
B. ORAL HYGIENE INSTRUCTION 1. Plaque use 2. Eliminating plaque 3. Basic patient education	Instruct patient in oral hygiene care and evaluate diets for proper nutritional needs.
C. EQUIPMENT AND OPERATORY MAINTENANCE 1. Business office/reception area 2. Operatories 3. Sterilization areas 4. Laboratory 5. Armamentariums the patient 6. Troubleshooting	The student will maintain the dental operatory and each piece of equipment in a sterile and functioning state. along with understanding the functions of the equipment.
D. HANDPIECES 1. Types of handpieces 2. Parts/attachments 3. Burs 4. Cleanning and maintenance 5. Troubleshooting	The student will recognize handpieces and understand how they operate along with Properly sterilizing/disinfecting and sanatizing to prevent disease transmission
E. STERILIZATION 1. Disease transmission 2. Instruments preparation 3. Methods of sterilization 4. Chemical agents	The student will apply knowledge to guard against disease transmission.
F. INSTRUMENTS 1. Types 2. Design 3. Nomenclature 4. Grasps	The student will identify the use and grasp of instruments.

CLARK COUNTY VOCATIONAL SKILLS CENTER
DENTAL ASSISTING PROGRAM

CAREER DEVELOPMENT Unit 4

A. Student Organizations
   1. VICA
      a. Organization
         1) Officers
         2) Committees
         3) Classroom/Lab Management
      b. Program of Work
      c. Competitions

The student will describe the struture of VICA. Each student will participate in a committee.

2. Committees a. Types 1) Standing 2) Special b. Ingredients 1) Members 2) Purpose 3) Time to Report c. Organizational Structure 1) Chairman 2) Secretary 3) Sub Committee	The student shall: distinguish between standing and special committees; list the purposes of each type of committee; know the 3 main requirements used in forming a committee; serve on a committee.
3. Parlimentary Procedures a. Agenda 1) Purpose 2) Content 3) When to Distribute b. Minutes of the Meeting 1) Contents 2) Format c. Procedures 1) Adjournment 2) To rise to a question of privilege 3) To lay on athe table 4) To call for the previous question 5) To refer to a committee 6) To amend a main motion (to amend an amendment) 7) Main motions 8) To take from the table 9) To rise to a point of order 10) To rise to parlimentary inquiry 11) To appeal from the decision of the chair 12) To call for a division of the house d. Handling Motions	The student shall: state the reason for an agenda; develop an agenda using correct format; state when to distribute an agenda; learn the proper contents in writing minutes for a meeting; record a set of minutes at a meeting; state the purpose of each procedure; use the proper terminology in an actual meeting.
8. Communications 1. Listening a. Bad listening habits b. Acting like a good listener c. Listening to understand d. Responding to verbal communication	The student will explain and practice acting like a good listener and listening to understand.

2. Speaking
   a. Keys to effectiveness
   b. Tone of voice
   c. Giving directions
   d. Courteous introduction
   e. Interrupting
   f. Answering telephone
   g. Answering client questions
   h. Reporting condition to supervisor

   The student will explain and practice speaking in listed situations.

3. Non-Verbal
   a. Body language
   b. Behavior
   c. Appearance
   d. Facial expression
   e. Positive and negative gestures
   f. Responding to non-verbal communication

   The student will explain the importance of non-verbal communication and provide examples.

C. Human Relations

1. Presentation
   a. Posture
   b. Clothing
   c. Hair/make-up
   d. Verbal and non-verbal communication skills (See Unit 2 on Communications)

   The student will look and feel like a successful individual.

2. Cooperation
   a. Being accepted
   b. Observing rules
   c. Carrying your own weight
   d. Don't impose on others
   e. Developing tolerance
   f. Tips on getting along
      1) Accept praise gracefully
      2) Share the credit
      3) Flatter people sincerely
      4) Don't flaunt special priveleges
      5) Let everyone be a winner
   g. Teamwork
      1) Sharing/delegating responsibilities
      2) Rewards/recognition

   The student will demonstrate a cooperative attitude in the classroom.

3. Problem Solving
   a. Identifying conflict
   b. Gaining empathy
   c. Maintaining Integrity
   d. Conflict resolution
      1) Identifying alternative
      2) Considering consequences
      3) Troubleshooting questions
   e. Negotiating
   f. Reaching a decision
   g. Evaluation

   The student will list logical problem solving techniques.

CLARK COUNTY VOCATIONAL SKILLS CENTER
DENTAL ASSISTING PROGRAM

SCIENCE UNIT 5

A. ANATOMY AND PHYSIOLOGY
   1. Tooth identification
   2. Tooth surfaces
   3. Cavity classification
   4. Bones of face
   5. Charting
   6. Tooth tissues
   7. Supporting structures
   8. Classification of occlusion
   9. Intra oral structures

The student will record, and identify the teeth and their supporting structures, surfaces, and numbers while utilizing a clinical chart.

B. PHARMACOLOGY
   1. Drugs and their effects
   2. Storage
   3. Common prescriptions
   4. Latin abbreviations
   5. Use of the PDR

The student will handle drugs safely, load and pass syringe.

C. DENTAL EMERGENCIES
   1. Common emergencies
   2. Precautions
   3. Procedures
   4. CPR
   5. Treatment

The student will recognize emergency symptoms, prepare for and assist the doctor with the emergency.

D. MEDICAL HISTORIES
   1. Rationale
   2. Forms
   3. Interview
   4. Review responces
   5. Contra indications

The student will understand importance and recognize factors doctor should be informed of for treating each patient.

E. VITAL SIGNS
   1. Rationale
   2. Equipment
   3. Blood pressure
   4. Temperature
   5. Respiration
   6. Pulse
   7. Record observations

The student will demo-onstrate the use of equipment, and administer skills for taking vitals

CLARK COUNTY VOCATIONAL SKILLS CENTER
DENTAL ASSISTING PROGRAM

DENTAL MATERIALS UNIT 5

A. BASES, LINERS, AND VARNISHES
   1. Name brand
   2. Preparation
   3. Delivery

The student will understand the uses, and demonstrate the suggested manufacturer mixing techniques.

B. CEMENTS
   1. Poly carboxylate
   2. Zinc Oxide and Eugenol
   3. Zinc Phosphate

C. IMPRESSION MATERIALS
   1. Poly ether
   2. Reversible hydrocolloid
   3. Irreversible hydrocolloid/alginate
   4. Rubber base
   5. Silicone

D. RESTORATIVE MATERIALS
   1. Amalgam
   2. Mercury contamination
   3. Composite resins
   4. Acrylic

CHAIRSIDE Unit 6

A. INSTRUMENT DELIVERY/EXCHANGE
   1. Grasps
   2. Fulcrums
   3. Anticipation

The student will deliver instruments efficiently to an operator.

B. ORAL EVACUATION/3 WAY SYRINGE
   1. Use
   2. Retraction
   3. Maintenance
   4. Safety
   5. Steps for moisture control

The student will assist the doctor efficiently with maxium time and motion assisting.

C. INTERNSHIP
   1. Dental office observation
   2. Clinic experiance

The student will understand and demonstrate function and roles in the dental office.

D. RUBBER DAM
   1. Preparation
   2. Application
   3. Removal
   4. Safety
   5. Patient instruction

The student will demonstrate placement of rubber dam providing patient comfort and safety.

E. CORONAL POLISH 1. preparation 2. application 3. Patient instruction 4. safety	The student will demonstrate removal of plaque utilizing the rubber cup.
F. FLUORIDE 1. Purpose 2. Preparation 3. insertion/removal of tray 4. patient instruction 5. Safety	The student will administer a topical fluoride onto patients clean teeth.
G. PIT AND FISSURE SEALANT 1. Purpose 2. types 3. preparation 4. application 5. patient instruction 6. Safety	The student will seal grooves on occlusals of teeth to eliminate future decay.
H. TRAY SET UPS 1. Guide lines for position 2. Purpose	The student will prepare trays for entire procedure including all of the armamentarium.
I. MATRIX/WEDGE 1. Armamentarium 2. Assembly 3. Purpose 4. Application	The student will list the principles and demonstrate the application of the matrix

LABORATORY UNIT 7

A. DIAGNOSTIC CASTS 1. Alginate 2. Plaster of paris 3. Stone 4. Pouring 5. Trimming 6. Finish	The student will produce a study model for diagonistic purposes
B. CARE AND MAINTENANCE 1. Model trimmer 2. Vibrator 3. Lathe 4. Contaminated materials	The student will demonstrate safety and care for equipment and work areas

C. TYPES OF MODELS 1. Study 2. Ortho 3. Working	The student will recognize the individual models, and list their purposes
D. CUSTOM TRAYS 1. Preparation 2. Mixing 3. Trimming	The student will prepare a tray for a crown and bridge procedure

RADIOGRAPHS UNIT 8

A REGULATIONS 1. State of WA department code	The student will list the state radiation laws
B. PROTECTION 1. Operator 2. Patient 3. Machine 4. Safety	The student will demonstrate the use of safety protection
C. COMPONENTS OF FILM 1. Composition 2. Speed 3. Types 4. Care and storage 5. Safety	The student will describe the components of dental film
D. MACHINES 1. Panelipse 2. Conventional 3. Cephlametric 4. TMJ	The student will list the various machines utilized in the dental offices
E. TECHNIQUE OF EXPOSURE 1. Bisection 2. Parallel 3. Exposure 4. Processing 5. Mounting 6. Solutions 7. Safety	The student will list and demonstrate the procedure for exposing/developing a radiograph.

OFFICE MANAGEMENT UNIT 9

A. TELEPHONE SKILLS 1. Courtesy 2. Emergency numbers	The student will display propertelephoneetiquette
B. APPOINTMENT CONTROL 1. Scheduling 2. Blocks of time	The student will demonstrate scheduling patients,using the appointment book.

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C. FILING
   1. Alphabetizing
   2. Removing and placing files

The student will demonstrate filing abilities during their receptionist rotation.

D. RECALL
   1. Purpose
   2. Scheduling
   3. Recording

The student will list the purposes and demonstrate the procedure for recalls.

E. COLLECTION
   1. Accounts receivable
   2. Accounts payable
   3. Over due accounts

The student will describe the rationale for collections.

CAREER OPPORTUNITY Unit 10

A. SPECIALTIES
   1. General practice
   2. Endodontic
   3. Oral surgery
   4. Oral Pathologh
   5. Orthodontics
   6. Pedodontics
   7. Periodontics
   8. Prosthodontics

The student will develop an understanding for each field and know the basic assisting skills for each.

B. DENTAL CAREERS
   1. Doctor
   2. hygienist
   3. Assistant
   4. Lab technician
   5. Supply salesman
   6. Detail Person
   7. Equipment serviceman
   8. Dealers and manufacturers

The student will list the job description, responsibilities and education for each team member.

C. TYPES OF ASSISTANTS
   1. Chariside
   2. Control
   3. Receptionist
   4. Expanded duty
   5. Rover
   6. Office manager

The student shall list the various assistant jobs and describe their roles.

VI. TYPE OF INSTRUCTION

Instruction will include 540 hours per year of classroom experience with accompanying lab experiences. To provide realistic training experiences, the skills center dental clinic will employ a dentist to give the students clinical experience inabling them to serve the publics denta needs

CLARK COUNTY VOCATIONAL SKILLS CENTER
DENTAL ASSISTING PROGRAM

VII. FACILITIES

A. LABORATORY
   1. Square feet: 748 + operatories 200 sq. ft.
   2. Capacity: 20 students each section
   3. Sections per day: 2 @ 3 hours per section
   4. Location: next to Nurse Assistant program

B. LAB SPECIFICATIONS
   1. 5 operatories at least 10 x 10'
      a. 3 operatories equiped as practice stations
      b. 2 operatories fully equiped with x-ray capabilities,protective apparatus,
      c. Work counter space along walls with electircal and gas outlets
      d. Six island work benches (4 students each) with sink, air, gas, storage below
      e. Adequate electircal outlets, no point more than 8' from outlet.
      f. Half size lockers for 40 students.
      g. 10-12 feet of tackboard and 20-24 feet of chalkboard.

C. DARK ROOM
   1. Square feet: 80
   2. Location: off laboratory
   3. Activities: develop negatives
   4. Specification:
      a. storage and work counter
      b. sink with running water
      c. electrical outlets
      d. adequate blackout system

D. STORAGE
   1. Square feet: 130
   2. Location: off laboratory
   3. Activities: Store equipment and supplies
   4. Specification: Shelves around walls

E. OFFICE
   1. Square feet: 100-120
   2. Location: adjacent to laboratory area
   3. Activities: Program planning, lesson preparation, conferring with students, parents and employers
   4. Specification: telephone, view to laboratory, 2 electircal outlets lockable door

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CLARK COUNTY VOCATIONAL SKILLS CENTER
DENTAL ASSISTING PROGRAM

VIII. ADVISORY COMMITTEE

The Dental assisting advisory committee met on a regular basis during the planning of the facility, program and curriculum. Members include:

Name	Job Title	Employer	Employee
Lela Dixon	Hygienist		x
JoAnn Parker	Receptionist/Asst		x
Dottie Meyer	Receptionist		x
Katie Graham	Hygienist Instructor	x	
Mary Doughtery	Assistant		x
Jackie Hokstra	Assistant Instructor	x	
Peter Lubisich	Dentist	x	
Robert Jones	Dentist	x	

Minutes of the advisory committee are included. Continuing advice and counsel will be sought by continuation of the advisory committee, by adding members so that industry is well represented in both employer and employee areas, and by having quarterly meetings. Due to the special aspects of being a skills center, other ex-officio members will be copnsulted on a yearly basis, namely educators in each of the feeder high schools and in the community college.

IX. INSTRUCTORS JOB DESCRIPTION

A. DENTAL ASSISTING INSTRUCTOR

Instruct high school juniors and seniors in skills leading to entry-level jobs as dental assistants or further training. In-depth instruction will include three hours of instruction, balanced between classroom theory and clinical experiences. The instructor will work closely with the dental community and a representative advisory commitee in developing and upgrading the curriculum and instructional competencies.

B. QUALIFICATIONS

1. Must have five years dental assisting experience and be x-ray certified.

2. Possess knowledge and skill in dental assisting, including: communications, interpersonal relationships, ehtics, basic skills for patients, didatic subjects, roetenology, instruments and equipment, and operatory.

3. Qualifies or willing to meet qualifications for Washington Vocational Teaching Certificate.

4. Demonstrated ability to relate to young people.

5. Demonstrated skills in human relations.

6. Ability to maintain basic dental clinic equipment.

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7. Demonstrated ability to be organized.

8. Supervisory experience and/or teaching experience preferred.

9. Interest in student leadership development.

10. Demonstrated professional growth through participation in inservice and professional organization involvement.

C. PERFORMANCE RESPONSIBILITIES

1. Provide sound learning environment and instruictional program.

2. Teach one or two sections, depending on enrollment.

3. Develop and update curriculum competencies, working in cooperation with an industry advisory commitee.

4. Work with other instructors in the sending high schools or at the community college to maintain a good working relationship and a positive skills center image.

5. Provide the development of student leadership, an understanding of the free enterprise system, and human relations as an integral part of the curriculum.

6. Work with cooperating high schools in program promotion and student recruitment.

7. Maintain individual student records and report progress to appropriate personnel.

8. Develop, meet with, and maintain an effective advisory committee.

9. Assume supervisory (student) responsibilities as assigned.

10. Organize, manage, and appropriately maintain the instructional facility, equipment, and resources which will sereve as a positive model to students and provide for a safe working environment.

11. Keep current professionally by taking related courses, returning to business during the summer, and maintaing involvement in professional organizations.

12. Participate in inservice activities conducted by the Evergreen School District and the Skills Center Director.

13. Maintain contact with the industry through visitations.

14. Establish and work toward short and long-term goals aimed at improving the program and instruction.

15. Perform other duties as assigned.

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X. PLANS FOR JOB PLACEMENT & FOLLOW-UP

The instructor, through industry contacts and the Skills Center vocational counselor/job developmnent coordinator, will work to place students in jobs upon completion of the program. Follow-up will be completed on a 1,3, and 5 year schedule.

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DIESEL AND HEAVY EQUIPMENT MECHANICS

I. Occupation Identificaton

This is a two year program offered to high school juniors and seniors. The first year course content includes orientation to the industry, safety practices, fundamental skills, human developement, and tool and equipment usage. The instuction will involve repair of diesel engines and power train components. The advances students will receive instruction on hydraulics, electrical systems, and steering components.

The student that acheives competency in each of the areas described will be ready for entry level positions in any of the following occupations.

JOB TITLE	D.O.T NUMBER
Diesel Mechanics	625.281
Logging Equipment Mechanics	620.281
Tractor Mechanics	620.281
Industrial Truck Mechanic	620.281
Construction Equipment	620.281

II. NEED

The Advisory Committee for Diesel and Heavy Equipment Mechanics has indicated a need for a vocational program in that industry. The occupational employment Trends for the Portland Metropolitan area which is published by the state of Oregon Department of Employment indicates a substantial increase in the need for Heavy Equipment and Diesel Mechanics by the year 1985. See attached copy of the advisory committee meeting minutes.

III. STUDENT CHARACTERISTICS

The program is open to high school juniors and seniors who wish to enter the mechanics trades and show a desire to work in the diesel and heavy equipment field.

The student will be recommended as an applicant to the program by vocational counselors or vocational teacher in their home high school. It is recommended that the applicant acquire basic mathematic and language skills.

CLARK COUNTY VOCATIONAL SKILLS CENTER
DIESEL AND HEAVY EQUIPMENT MECHANICS

IV. Curriculum Content and Objectives

ORIENTATION TO INDUSTRY AND PROGRAM
UNIT #1
(10 hours)

A. Course Content
   1. Theory
   2. Testing
   3. LAB competencies
   4. Skill areas included

The student will be familiar with the program course content.

The student will be familiar with the grading policy of the program.

B. Grading
   Shop Performance 50%
   Attendance, work habits, safety 20%
   Theory Tests 15%
   Theory Assignments 15%

The student will be familiar with Skill Center rules and attendance policies.

C. Attendance Policy and Center Rules
   1. Absence-credit loss
   2. Tardiness-absence
   3. Activity Requests
   4. Smoking
   5. Safety Violations
   6. Disruption
   7. Driving

D. Awareness of Industry
   1. Types of Industry
   2. Career Choices
   3. Free Enterprise
   4. General or Specialist mechanic
   5. Management and Structure
   6. Responsibility of the Mechanic

The student will list and be familiar with types of industry using diesel power and heavy equipment.

The student will be aware of the mechanics liability in performing repair work.

BASIC SAFETY
UNIT 2
(24 hours)

A. Personal Safety
   1. Clothing
   2. Eye protection
   3. Face shields
   4. Parental consent
   5. Jewelry

The student will list all the general shop safety rules.

B. Shop Safety
   1. Guards on equipment
   2. Defective equipment
   3. Maintain Clean shop
   4. Use of compressed air
   5. General Rules

The student will define the classes of fire and the appropriate extinguisher to use.
The student will perform a shop a shop inspection for safety hazards and list appropriate action to take.

C. Fire Hazards
   1. FLammable liquids
   2. Oil rags
   3. Cutting and welding equipment
   4. Electrical
   5. Extinguishers
   6. Reporting

COMMON HAND TOOLS
UNIT #3
(20 hours)

A. Endwrenches, socket wrenches and attachments.
B Screwdrivers, blade, Philips, impact special application.
C. Pliers, cutting, slip joint, arc joint special application.
D. Hammers, chisels, punches, drifts.
E. Hacksaw, files.
F. Adjustable endwrench, pipewrench, spanner wrenches.

Student will be able to identify common hand tools used in the trade.

The student will demonstrate proper handling and safe use of hand tools.

MEASURING TOOLS
Unit #4
20 hours

A. Micrometers
   1. Outside Measuring
   2. Inside Measuring
   3. Depth Measuring

The student will identify and describe the function of each measuring tool used in the trade.

B. Dial Indicator
   1. Check Backlash
   2. Run out Radial
   3. End Movement

C. Torque Wrenches
   1. Inch pound-Bearing Preload-injector Adjustment
   2. Bolt Torqueing

The student will demonstrate proper use and care of each measuring tool and properly interpret readings.

D. Feeler Gaugers
   1. Go-no go Gauge
   2. Bent blade and straight blade
   3. Valve adjusting

E. Rulers, Tapes, and Straightedge
   1. Measure in 1/64
   2. Convert Fractions to decimals
   3. Warp test with straightedge

SHOP EQUIPMENT AND SAFETY
UNIT #5
(50 hours)

A. Forklift Truck
   1. Parental Consent
   2. Certificate of proficiency obtained by operation test.

B. Overhead Crane
   1. Hand Signals
   2. Lift and lower skill practices
   3. Horizontal travel skill practice
   4. Parental consent

The student will list and describe the hazards that accompany the operation of the equipment listed.

C. 50 Ton Hydraulic Press
   1. Press, shafts, gears, bearings apart
   2. Calculate tons @ square inch using pressure gauge.
   3. Skill practice
   4. Parental consent

D. Steam cleaner and Pressure Washer
   1. Start procedure
   2. Maintenance

The student will pass a proficiency test of the fork lift truck, overhead cranes, and hydraulic press before being allowed to use same.

CLARK COUNTY VOCATIONAL SKILLS CENTER
DIESEL AND HEAVY EQUIPMENT MECHANICS

POWER TOOLS
UNIT #6
(30 hours)

A. Air impact wrenches
   1. Safety
   2. When to use

B Air Die Grinder
   1. Safety
   2. Proper Application

C. Pedestal Grinders
   1. Safety
   2. Dressing wheels
   3. Maintenance and Proper use.

The student will demonstrate safety and proficiency in using power tools.

D. Electrical Drills and Drill Press
   1. Safety
   2. Sharpening bits.
   3. Removing broken parts
   4. Marking drill points

The student will be able to describe the proper maintenance of power tools.

E. Electric Disc Grinder
   1. Safety
   2. Grinding techniques
   3. Care of discs.

FASTENERS
UNIT #7
(20 hours)

A. Bolts
   1. Sizes, threads @ inch, coars, fine
   2. Grades, application
   3. Drilling and tapping holes.

The student will list and describe the function of the various fasteners used in the trade.

B. Nuts
   1. Sizes, types, grades
   2. Application

C. Washers
   1. Locking
   2. Plain Flat
   3. Application

D. Pins and Keys
   1. Types of pins
   2. Application
   3. Types of keys
   4. Application

The student will demonstrate proper selection, installation and tightening techniques of various size bolts and nuts.

WELDING
UNIT #8
(90 hours)

A. Arc Welding
   1. Safety
   2. Metal preparation
   3. Adjust the equipment
   4. Butt weld
   5. Lap weld
   6. Positions
   7. Types of rod

The student will describe and demonstrate safe practices arc and gas welding and cutting.

The student will demonstrate proficiency in setting up and adjusting welding equipment.

B. Oxyacetylene Welding and Brazing
   1. Safety
   2. Adjusting Regulators
   3. Care of equipment
   4. Selecting rod and flux
   5. Preparing metal
   6. Butt lap and welds
   7. Heating techniques

The student will lay a weld bead acceptable to the trade.

The student will demonstrate proficiency in cutting steel with oxycacetylene equipment.

C. Oxycetylene Cutting
   1. Safety
   2. Care of equipment
   3. Adjustment
   4. Cutting techniques
   5. Piercing techniques

The student will be familiar with basic design of fabricated components.

BEARINGS
UNIT #9
(30 hours)

A. Plain bearings
   1. Application
   2. Measuring
   3. Lubrication
   4. Types

The student will identify all types of bearings used in the industry.

5. Failure diagnosis
6. Installation removal

The student will describe the function of all types bearings used.

B. Antifriction Bearings
1. Ball bearings
2. Roller Bearings
3. Needle Bearings
4. Functions
5. Applications
6. Lubrication
7. Bearing Pullers
8. Installation techniques
9. Clean and inspect
10. Diagnose Failure

The student will demonstrate proper removal and installation techniques and of all types of bearings

The student will demonstrate accurate wear and failure diagnosis of bearings.

SEALS
UNIT #10
20 hours

Seals

A. Static Seals
1. Construction
2. Application
3. Function
4. Remove and install
5. Gaskets

The student will identify the types of bearings.

B. Dynamic Seals
1. Types and function
2. Application
3. Installation and removal
4. Mating races
5. Wear diagnosis
6. Packing adjustments

The student will identify the types of oil and grease, seals used in the industry.

The student will demonstrate proper removal and installation techniques.

DIESEL ENGINE (THEORY & OPERATION
UNIT 10
(20 Hours)

A. Design
1. 2 cycle
2. 4 cycle
3. In line
4. V Type
5. Opposed type

The student will list applications of diesel engines in the industry.

The student will indentify the various configurations of engines and describe the operating principles of each.

B. Performance
   1. Torque
   2. Horsepower
   3. Measurement of energy
   4. Fuel economy

The student will list and describe the function of the systems that make up a diesel engine.

C. Function of Systems
   1. Cooling system
   2. Fuel system
   3. Lubrication system
   4. Intake and exhaust system
   5. Piston and rod assemblies
   6. Cylinder head
   7. Crankshaft and bearings
   8. Cyl block and liners

LEADERSHIP
UNIT #12
(70 hours)

A On the job leadership
   1. Manager or boss.
   2. Foreman, or supervisor
   3. Worker
   4. Communication

The student will explain how acquired leadership skills will help in the work world.

B. Organization Leaders
   1. Election of officers
   2. Duties

The student will understand and take part in parliamentary procedure

C. Parliamentary Procedures
   1. Agenda
      a. purpose
      b. content
      c. distribution time
      d. call for vote

The student will describe how the V.I.C.A. Organization can develop leadership skills.

D. Committees
   1. Types
   2. Function
      a. standing
      b. Ad-hoc
      c. Special

The student will be part of a committee and understand the function of various types of committees.

CLARK COUNTY VOCATIONAL SKILLS CENTER
DIESEL AND HEAVY EQUIPMENT MECHANICS

HUMAN EFFECTIVENESS
UNIT #13
(10 hours)

A. Potential and Effectiveness
B. Attitudes and self image
C. Self Esteem
D. Motivation and goal setting
E. Plan of action and winning thoughts

The student will describe what is meant by self image, self esteem.

The student will describe the importance of goal setting in developing one's own success.

COMMUNICATIONS AND HUMAN RELATIONS
UNIT #14
(6 hours)

A. Presentation
   1. Posture
   2. Clothing
   3. Grooming

The student will demonstrate how to look and feel like a successful person.

The student will describe a good listener.

B. Listening
   1. Habits
   2. Actions
   3. Understanding
   4. Response

The student will demonstrate effective speaking practices.

C. Speaking
   1. Tone of voice
   2. Giving instructions
   3. Interruption (courtesy)
   4. Reporting a situation or condition

The student will describe diffrent types of body language.

D. Body Language
   1. Facial expression
   2. Gestures

COOLING SYSTEMS
UNIT #15
(20 hours)

A. Radiator and Heat Exchanger
   1. Theory of operation
   2. Construction
   3. Types of systems

The student will recognize the individual components that make up the cooling system.

4. Maintenance
5. Oil coolers

B. Water Pump
   1. Types
   2. Drives/gear belt
   3. Construction
   4. Repair and reseal
   5. Remove and install

C. Thermostat
   1. Types and location
   2. Principle of operation
   3. Remove and install
   4. Test procedure

D. Trouble shooting
   1. Belts
   2. Hoses
   3. Compression leaks
   4. Gauges and sensing units
   5. Fans and drives
   6. Shrouds and guards
   7. Safety

The student will be proficient in removing testing and installing the individual cooling system components.

The student will write a service report of the test findings int he cooling system.

The student will describe the trouble shooting procedure of diagnosing a heating problem of a diesel engine.

FUEL INJECTION SYSTEM
UNIT #16
(50 hours)

A. Injection Pumps
   1. Type and construction
   2. Operation
   3. Governors
   4. Timing and bleeding
   5. Unit Injectors
   6. Application

B. Injection Nozzles
   1. Types and construction
   2. Principles of operation
   3. Application
   4. Diagnosing Failures
   5. Testing
   6. Remove and install
   7. Adjust
   8. Transfer pumps

The student will identify and list and describe the function of each component of the fuel system.

The student will describe the operation of hte 4 basice types of injection systems.

The student will diagnose a failure within the fuel systematic and logical manner.

The student will remove test adjust and install a fuel injection nozzle.

The student will remove, install, time, and bleed a fuel injection.

C. Transfer Pumps
   1. Types and construction
   2. Operation
   3. Application
   4. Remove and install
   5. Test and repair

D. Other Fuel Components
   1. Filtering systems
   2. Lines high and low pressure
   3. Tanks
   4. Electro-mechanical shut off.
   5. Injector test stand.

LUBRICATION SYSTEMS
UNIT #17
(20 hours)

A. Oil Pump
   1. Types and operation
   2. Drive tytpes
   3. Remove, install, adjust
   4. Wear diagnosis

B. Filters
   1. Servicing
   2. Types
   3. Full Flow
   4. By pass

C. Other System Components
   1. Coolers
   2. Lines and Galleys
   3. By pass and valves
   4. Pressure regulators
   5. Pressure Gauges

D. Lubricating Oils
   1. Types and grades
   2. Rating
   3. Application

The student will describe the operation of the lubrication system.

The student will list the components and be able to identify each that make up the lubrication system.

The student will remove oil pump, and by pass valve and diagnose wear in each component.

The student will demonstrate the proper diagnostic procedure in trouble shooting, a lubrication system failure.

AIR INTAKE AND EXHAUST SYSTEMS
UNIT #18
(15 hours)

A. Exhaust
   1. Manifolds
   2. Mufflers

B. Intake
   1. Air cleaners
   2. Manifold and piping
   3. Turbo chargers
   4. Inspection
   5. Trouble diagnosis

The student will describe the types and function of air cleaners.

The student will remove and install intake and exhaust manifolds following instructions listed in the service manual.

The student will be able to remove, inspect for wear, and install turbo chargers and super-chargers.

CYLINDER HEAD
UNIT # 19
(20 hours)

A. Gaskets
   1. Types
   2. Surface Preparation
   3. Tighting Procedure

The student will list and describe the function of the component parts making up the cylinder head.

B. Valves and Related Parts
   1. Guides
   2. Springs
   3. Retainers
   4. Seats and Ports
   5. Adjustment

The student will remove, inspect and install a cylinder head per instructions in the service manual.

C. Precombustion Chambers
   1. Types
   2. Servicing

D. Head Assemblies
   1. Inspection
   2. Warpage
   3. Cracks
   4. Water Passages

The student will adjust valves and install related cylinder head parts as per specifications listed in the service manual.

CAMSHAFT, GEAR TRAIN
UNIT # 20
(20 hours)

A. Camshaft
   1. Construction
   2. Bearings
   3. Function

The student will be familiar with the function of the camshaft.

4. Followers

B. Gears
   1. Crank Shaft
   2. Cam Gear
   3. Idler Gears
   4. Remove & Install
   5. Timing
   6. Accessory Drives

The student will identify and describe the operation of the various cam followers.

The student will time camshafts to crankshafts.

C. Valve Train
   1. Push Rods
   2. Rocker Arms
   3. Compression Release
   4. Adjustments

The student will remove, inspect, and install camshafts and timing gears.

PISTONS, RINGS, and CONNECITNG RODS
UNIT # 20
(20 hours)

A. Piston
   1. Types & Construction
   2. Application
   3. Rings
   4. Piston, Pins & Retainers
   5. Ring Compressor
   6. Remove, Install & Service
   7. Wear Measurement

The student will describe the function of the pistons, rings, and connecting rod.

The student will remove the piston & rod assembly.

The student will inspect, measure, diagnose wear and install the assembly.

B. Connecting Rods
   1. Types & Construction
   2. Application
   3. Pin Bushings
   4. Con Rod Bearings
   5. Reconditioning Procedure
   6. Remove & Install
   7. Torque Methods
   8. Micrometer Measuring

The student will write a service report describing the wear diagnoses findings.

CRANKSHAFT and BEARINGS
UNIT # 22
(15 hours)

A. Crankshaft
   1. Construciton
   2. Configuration & Application

The student will be able to describe the parts of the crankshaft.

3. Handling
4. Remove & Install
5. Inspect
6. Measure Journals
7. Polish
8. Clean Oil Passages

The student will remove, inspect and measure for wear with a micrometer and install a crankshaft.

The student will torque crank main bearing caps in accordance with the service manual.

B. Bearings
1. Construciton
2. Application
3. Remove & Install
4. Measure & Inspect
5. Torque Main & Rod Caps
6. Lubrication

The student will record in a service report the the dimensions and wear on the rod and main bearing journals

CYLINDER BLOCK
UNIT # 23
(30 hours)

A. Liners & Sleeves
1. Types
2. Application
3. Measureing Wear
4. Remove & Install
5. Reseal

The student will identify the various types of liner assemblies.

The student will measure wear in the cylinder liners.

B. Front & Read Crankshaft Seals
1. Types used
2. Remove and Replace

The student will remove and install liners

C. Block
1. Cleaning
2. Prep, Seal & Gasket Surfaces
3. Inspect for Cracks

The student will hone liners and/or bores.

ENGINE TUNE UP & TROUBLE SHOOTING
UNIT # 24
(40 hours)

A. Tune Up
1. Change Fuel Filters
2. Check Air Cleaner
3. Adjust Valves
4. Time Injectors
5. Adjust Govenor
6. Run on Dynamometer

The student given a service manual will demostrate proper tune up prodedures.

The student will demonstate a systematic approach in troubleshooting techniques.

B. Trouble Shooting
1. Compression
2. Fuel Systems
3. Intake System
4. Noise
5. Vibration
6. Power Loss

POWER TRAIN
UNIT #25
(70 Hours)

A. Power Train Function
1. Disconnect Power
2. Reversing
3. Speed ratios
4. Ratios
5. Equal power to Driving Wheels

The student will identify the components of the drive train and describe each function.

The student will know the four basic jobs the power train does.

B. Components
1. Clutch
2. Transmission
3. Differential
4. Final Drives
5. Drive wheels

The student will demonstrate safe and proper work habits while disassembling a given gear box.

C. Clutches
1. Types and Construction
2. Adjustment
3. Flywheel
4. Pressure Plate
5. Center Plates
6. Sprague and Overrunning
7. Trouble Diagnosis

The student will use a service manual as reference while removing and installing gears and bearings.

The student will use bearing and gear pullers in a safe manner.

D. Mechanical Transmissions
1. Types and Construction
2. Operation
3. Sliding Gear
4. Collar Shift
5. Synchromesh
6. Disassemble-Assemble
7. Trouble and Wear Diagnosis

The student will use the hydraulic press in a safe manner.

The student will demonstrate accurate wear diagnosis of gears and write a service report on same.

E. Planetary Transmissions
   1. Reduction Principle
   2. Clutch Activating
   3. Hydraulic Shift Controls
   4. Trouble Diagnosis

The student will understand the operation of a planetary gear set and describe the function.

F. Hydrostatic Transmissions
   1. Theory and Operation
   2. Application

DRIVING AXLES
UNIT #27
(60 Hours)

A. Differential
   1. Types and Operation
   2. Bevel and Ring Gear
   3. Bevel Pinions
   4. Differential locks
   5. Drive line service
   6. Universal Joints
   7. Bearing Preload
   8. Gear Adjustment

The student will adjust bearing preload and bevel and ring gear adjustment as specified in the service manual.

The student will disassemble, diagnose wear and assemble differental units.

B. Final Drives
   1. Types and Operation
   2. Bearing Carriers
   3. Adjustment
   4. Wear Diagnosis

The student will report in writing the findings of the wear diagnosis.

C. Axle and Hub
   1. Bearing Types
   2. Seal Types
   3. Remove and Install
   4. Clean and Inspect Bearings
   5. Assemble
   6. Adjust and Lock Bearings

The student will remove wheel, axle and hub assembly, inspect, and reassemble using proper adjustment techniques of wheel bearings.

D. Steering Gears 1. Types and Operation 2. Function 3. Disassemble, Assemble 4. Wear Diagnosis 5. Adjustment	The student will describe the function of the steering gear box. The student will disassemble, diagnose wear, assemble, and adjust steering gear as per service manual instructions.

TIME MANAGEMENT
UNIT #28
(2 Hours)

A. Time Wasters 1. Unclear Goals 2. Interruptions 3. Procrastination	The student will be able to list ten time wasters and methods to correct.
B. Goal Setting 1. Realistic 2. Daily, weekly etc. 3. Achieving goals	The student will list two goals aimed at better use of their time.
C. Time Saving Strategy 1. Maintain Calendar 2. Prioritize 3. Plan Movement	The student will attempt to achieve the goals listed.

HYDRAULICS
UNIT #29
(100 Hours)

A. Basic Principles 1. Types of systems 2. Application 3. Components in system 4. Safety 5. Steering application 6. Braking application 7. Basic Schematics	The student will list the major components that will make up a hydraulic system. The student will identify and list the applications of hydraulics in the industry.

B. Hydraulic Pumps
   1. Function
   2. Types and application
   3. Operation
   4. Disassemble-assemble
   5. Wear Diagnosis
   6. Test

The student will list the safety hazards associated with hydraulic system repair.

C. Control Valves
   1. Pressure control
   2. Directional control
   3. Volume Control
   4. Test on Test Bench
   5. Plumb into circuit

The student will flow and pressure test a hydraulic pump.
The student will disassemble, diagnose wear, and assemble a pump.

D. Relief Valves
   1. Function and operation
   2. Direct acting
   3. Pilot Operated
   4. Test on bench
   5. Servicing

E. Flow Control Valves
   1. Operation and types
   2. Function
   3. Test on Bench
   4. Servicing
   5. Wear Diagnosis

The student will identify and describe the function of the different types of valves found in the hydraulic systems.

The student will use the hydraulic test bench to test the different valves listed.

F. Hydraulic Cylinders
   1. Types and Operation
   2. Function of each type
   3. Disassemble and Repair
   4. Test on Bench
   5. Wear Diagnosis

The student will identify each type of cylinder and know how to test each on hydraulic test bench.

G. Hydraulic Motors
   1. Function and Operation
   2. Types
      a. Piston
      b. Vane
      c. Gear
   3. Operate on Test Bench
   4. Disassemble and wear diagnosis

The student will identify the types of hydraulic motors and describe application in the industry.

H. Other Hydraulic Components
   1. Accumalator
      a. Function
      b. Application
   2. Filters
      a. Types
      b. Servicing
      c. Function
   3. Reservoirs
   4. Hoses and pipes
   5. Couplers

The student will correctly hook up all the components in a given hydraulic system using the test bench as a model.

The student will solve simulated hydraulic system mal-functions an the tests bench.

I. System Testing and Troubleshooting
   1. Test equipment
   2. Gauges
   3. Operation
   4. Inspection
   5. Possible causes
   6. Conclusion

ELECTRICAL SYSTEM
UNIT #30
(85 Hours)

A. Electricity Theory
   1. Amperage, Voltage Resistance
   2. Magnetism
   3. Conductors
   4. Basic Circuits

The students will understand basic theory and will describe amps, volts, and resistance.

B. Testing Tools and Equipment
   1. Multimeter use
   2. Voltage and Amp Tester
   3. Alternator and Battery Load Tester

The student will demonstrate the proper use of electrical test equipment.

C. Storage Batteries
   1. Construction
   2. Types
   3. Working Theory
   4. Testing
   5. Servicing
   6. Safety

The student will list safety hazards existing around battery servicing.

The student will test a battery and describe its condition.

D. Charging System
   1. Function
   2. Components and Operation
   3. Disassemble, Assemble
   4. Test
      a. Generators
      b. Regulators
      c. Alternators
      d. Ammeters
   5. Remove and Replace
   6. Diagram Circuits
   7. Trouble Shooting Failures

The student will describe in writing the function of the charging system.

The student will identify the compinents of the charging system.

The student will disassemble an alternator, identify the individual parts, assembleand test current output.

E. Starting System
   1. Starter Motors
      a. Magnetism
      b. Armature
      c. Fired
      d. Function
      e. Operation
   2. Switches
      a. Magnetic
      b. Manual
      c. Solehoid
   3. Starter Drives
      a. Pinion
      b. Bendix
      c. Overrunning
   4. Circuitry
   5. Testing
   6. Troubleshooting
   7. Safety

The student will identify the different types of starter assemblies and describe the operation of each.

The student will identify the types of starter switches and explain the operation of each.

The student will perform load tests on a given starter.

The student will demonstrate a systematic approach to diagnosing a given starting system failure.

F. Ignition Systems
   1. Distributor
      a. Points and Condensor
      b. Electronic Sensing
      c. Rotor
      d. Cap
      e. Advance Mechanism
   2. Coil
      a. Primary Circuit
      b. Secondary Circuit

The student will troubleshoot and correct a given failure of the ignition system.

The student will time a distributor to an engine.

3. High Tension Leads
4. Spark Plugs
5. Adjustment and Troubleshooting
6. Magneto
7. Timing

The student will install the wiring on an ignition system.

G. Wiring Circuits
   1. Terminals and Connectors
   2. Diagram Reading
   3. Test Instruments
   4. Lighting
      a. Switches
      b. Relays
      c. Bulbs
   5. Gauges
      a. Types
      b. Operation
      c. Troubleshooting
   6. Electric Motors
   7. Glow Plugs

The student will draw a basic lighting wiring diagram.

The student will describe the various electrical type gauges and sending units

The student will locate and repair a given wiring failure of a basic electrical system.

H. Electrical System Maintenance
   1. Battery
      a. Electrolyte Level
      b. Post and terminal condition
   2. Alternator
      a. Belt Tension
      b. Mounting
      c. Wire connections
   3. Wiring
      a. Loose Connections
      b. Corrosion

The student will describe the result of dirt and corrosion in the electrical system.

The student will demonstrate the visual checks to the electrical system when vehicle is being serviced.

WRITTEN COMMUNICATIONS
UNIT #31
(30 Hours)

A. Job Order
   1. Pertinent Data
      a. Model,Make
      b. Serial Number

The student will write legible and descriptive work orders for each job to be performed.

c. Date
d. Owner

2. Description of Work to be done
3. Signature of Owner
4. Estimated completion time

The student will demonstrate a basic knowledge of estimating parts and labor costs.

The student will write a clear and complete parts requisition list on each job that is performed.

B. Parts Ordering
1. Pertinent Data
a. Make,model, S/N
2. Correct Terminology or description of part
3. Correct Use of Parts Box
4. Check for Completeness of Order

The student will write a service report on each job performed which describes the result of failure or wear diagnosis and the corrective action taken.

C. Service Reporting
1. Pertinent Data
a. Make, Model, Serial Number
b. Owner
c. Date
d. Completion Time of Work
2. Describe Reason for Repair
3. Describe Repairs Performed

The student will have aquired a basic knowledge of parts and labor costs and will demonstrate proper estimating techniques.

BRAKE SYSTEMS
UNIT #32
(45 Hours)

A. Air Brakes
1. Treadle Valve
2. Relay Valve
3. Lines
4. Cam Actuators
5. Shoe Design
6. Adjustment
7. Repair
a. S-Cam Brake
b. Wedge Brake
8. Compressor
9. Governor

The student will identify and list the types of brake systems used on highway vehicles.

The student will list each component of a truck air brake system.

The student will describe the function of each component of the air brake system.

B. Hydraulic Brakes
1. Master Cylinders
2. Boosters
a. Hydrovac
b. Air Assist

The student will describe the function of each component in a hydraulic brake system.

3.	Slave Cylinders	The student will troubleshoot and repair a given problem of a hydraulic brake system.
4.	Shoe Mechanism	
5.	Adjustment	The student will adjust both air and hydraulic type brakes.
6.	Troubleshooting	

V. TYPE OF INSTRUCTION

The instruction will consist of 1080 hours of instruction, spanning a two year period. Approximately 40% of the training will consist of class room theory. The remaining 60% of the time will be in the shop with hands on learning experiences to develop manual skills. The skills center will take in repair jobs on trucks and heavy equipment to simulate actual repair practices in the industry. Much of the competency testing will be the completion of the actual repair performed to acceptable standards.

VI. FACILITIES AND EQUIPMENT

The diesel and heavy equipment mechanics student will receive hands on instruction in a 4200 square foot shop. The shop is fully equipped with the necessary tools and equipment to perform repairs on most types of equipment in the industry. In addition to the main shop a classroom is furnished for lecture and presenting audio-visual type training. Hydraulics, fuel injector, and dynamometer labs are also furnished for specialized instruction.

VII. ADVISORY COMMITTEE

The Diesel and Heavy Equipment Advisory Committee used skills requirments of entry level employment as a basis for planning the program and facilities. Minutes are included.

Advisory committee members are listed as follows:

		Employer	Employee
Johnny Herrara	Evergreen School District;mechanics		X
Mike Ward	Halton Tractor Co. Trainer	X	
Bruce Ritchey	Clark College Instructor		X
Dale Kenworthy	C-Tran Service Manager	X	
Mark Ahola	Diesel Service Unit Foreman		X
Dennis Winkle	Freightliner Sales		X
Rod De Serrano			X
David Heyman	Action Tractor	X	
William Zoller	Vancouver Sanitary		X
Earl Berry	Earl Berry Truck Repair	X	
Gary Louden	Evergreen School District		X

Well rounded representations of the industry will be maintained by adding advisory committee members as necessary. The advisory committee will review industry needs and curriculum outline at each quantity meeting to update as trends and needs change.

INSTRUCTOR'S JOB DESCRIPTION

VIII. DIESEL AND HEAVY EQUIPMENT MECHANICS INSTRUCTOR

Instruct high school juniors and seniors in skills leading to entry level employment in diesel and heavy equipment mechanic fields or leading to continuing higher education. In-depth instruction will include three hours of classroom and laboratory activities. The instructor will work closely with industry groups and a representative advisory committee in developing the program curriculum and in the placement of program completors in jobs.

QUALIFICATIONS

1. Minimum 5 years varied diesel and heavy equipment mechanics experience.
2. Qualifies for or willing to meet qualifications for vocational teaching certificate.
3. Supervisory experience and/or teaching experience preferred.
4. Demonstrated ability to relate to young people.
5. Demonstrated skills in human relations.
6. Demonstrated ability to be organized.
7. Ability to perform routine basic maintenance on diesel and heavy office equipment.
8. Interest in student leadership development.
9. Demonstrated professional growth through participation in in-service and professional organization involvement.

PERFORMANCE RESPONSIBILITIES

1. Provide sound learning environment and instructional program.
2. Teach one or two sections, depending on enrollment.
3. Develop and update curriculum competencies, working in cooperation with an industry advisory committee.

4. Work with other instructors in the sending high schools or at the community college to maintain a good working relationship and a positive Skills Center image.

5. Provide the development of student leadership, an understanding of the free enterprise system, and human relations as an integral part of the curriculum.

6. Work with cooperating high schools in program promotion and student recruitment.

7. Maintain individual student records and report progress to appropriate personnel.

8. Develop, meet with, and maintain an effective advisory committee.

9. Assume supervisory (student) responsibilities as assigned.

10. Organize, manage, and appropriately maintain the instructional facility, equipment, and resources which will serve as a positive model to students and provide for a safe working environment.

11. Keep current professionally by taking related courses, returning to business during the summer, and maintaining involvement in professional organizations.

12. Participate in inservice activities conducted by the Evergreen School District and the Skills Center Director.

13. Maintain contact with the industry through visitations.

14. Establish and work toward short- and long-term goals aimed at improving the program and instruction.

15. Perform other duties as assigned.

IX. JOB PLACEMENT AND FOLLOW UP

Students successfully completing the Diesel and Heavy Equipment Mechanics program will receive assistance in seeking employment in the industry from the instructor. The instructor will work through the skills Center vocational counselor and his contacts in the industry to place the student. There will be a 1,3, and 5 year follow up to track the students' employment.

CLARK COUNTY VOCATIONAL SKILLS CENTER
ELECTRONICS PROGRAM

ELECTRONICS TECHNOLOGY

I. OCCUPATIONAL IDENTIFICATION

The vocational industrial Electronics Program, is a two-year course for Junior and Senior students, who have made an occupational choice, which is suited to their needs and who have the interest and ability to benefit from such instruction.

The program of instruction provides a continuous, three-hour block of time in laboratory experiments or experiences, as well as related classroom instruction. The classroom, laboratory and practical learning experiences include the theory and practices concerned with construction, maintenance, and repair of electronic equipment used in industry.

The emphasis is on each student obtaining functional knowledge of devices, circuitry, and industrial concepts. A major portion of the instruction, is placed on individualized attention, demonstrations, and practical applications. The basic principles of science and integrated into the instructional units.

Upon graduation, the students will be qualified for entry-level positions in the areas of testing, repairing, servicing, calibrating, and operating a wide variety of electronic equipment; or continue education for associate or advanced degrees.

A graduate of this program will be eligible for the following occupations:

D.O.T. number	Job title
003.161-014	Sales Engineer, Electronics Products and Systems
003.161-017	Electronics Technician
003.261-018	Semiconductor-Development Technician
003.261-010	Instrumentation Technician
271.357-010	Sales Representative, Electronic Parts
710.281-010	Assemble and Tester, Electronics
710.281-026	Instrument Mechanic

720.281-010	Radio Repairer
720.281-018	Television-Recorder Repairer
722.281-010	Instrument Repairer
726.261-010	Electronics Assembler, Developmental
726.381-014	Electronics Tester
726.381-010	Electronics Inspector
726.384-010	Electronics Assembler
726.684-018	Electronics Assembler
726.684-022	Electronics Inspector
726.684-026	Electronics Tester
823.281-010	Avionics Technician
828.258-010	Electronic-sales-and-service Technician
828.261-010	Electronic-organ Technician
828.281-010	Electronics Mechanic

II. Need

The Electronics Technology Advisory Committee agreed to the need for an Electronics Technology Program at the Skills Center. They expressed a need for additional electronics workers in the region.

III. Student Characteristics

The program will be open to students in the eleventh and twelfth grades who have an interest and ability to benefit from such training. They should have a strong background in mathematics (such as algebra and geometry). They will have the recommendation and approval of vocational counselors and/or a vocational teacher.

IV. Objectives and Job Competencies

The primary purpose of the Electronics Technology Program, is to provide the student with the necessary skills and knowledge to obtain entry-level employment in the industrial electronics trade, or to qualify for advanced training.

As a result of the instruction and supervised practice, the students shall:

A. Demonstrate understanding of the theory of electrical and electronics principles, by reading schematic diagrams and interpreting tests to construct, fabricate and repair electronic equipment and devices, within acceptable standards of the industry.

B. Perform the skills required in the testing and analysis of electronic circuits and systems, using electronics, test and measure equipment while demonstrating a logical trouble-shooting procedure.

C. Exhibit a safety awareness, which is reflected in good work habits, including cleanliness, orderliness, and habits of safe practice.

D. Demonstrate the necessary technical knowledge and comprehension of scientific, mathematic, and mechanical principles, to form sound trade judgements.

E. Demonstrate the ability to properly manipulate and care for the hand tools, power tools, and equipment of the trade, which is necessary for safe and correct usage.

F. Be able to apply an extend basic educational skills of communications, computation, and decision-making, in solving problems in theoretical and practical applications.

G. Exhibit qualities of leadership, for effective participation in various organizations affiliated with the industrial electronics trade, as developed through V.I.C.A.

H. Read and make use of information, contained in various technical publications.

I. Develop leadership attitudes and techniques, which will promote advancement, safety, and hygiene in a living and working society.

J. Understand the necessity and value of continuing education.

CLARK COUNTY VOCATIONAL SKILLS CENTER
ELECTRONICS PROGRAM

V. Curriculum Content

UNIT 1 DC CIRCUITS
(5 weeks)

A. Electrical Units 1. Joule 2. Coulomb 3. Ampere 4. Volt 5. OHM 6. Watt	Each student will be able to: Define each term and what it is a measure of.
B. Scientific Notation 1. Powers of ten 2. Conversions 3. Prefixes	Each student will be able to: Convert to & from scientific notation. Know each prefix. Convert to and from prefixed units.
C. OHM's & Watt's Laws 1. 3 basic forms of OHM's Law 2. 3 basic forms of Watt's Law	Each student will be able to: Memorize & apply the 3 forms of OHM's Law. Memorize & apply the 3 forms of Watt's Law.
D. DC Instruments 1. Ohmmeter 2. Volemeter 3. Ammeter	Each student will be able to: Know how to correctly set-up and use each meter. Obtain a correct reading within specified tolerance, using each meter.
E. Components 1. Conductors 2. Insulators 3. Resistors 4. Switches 5. Batteries	Each student will be able to: -Know component symbols. -Know component characteristic. -Know and use resistor color code. Calculate resistance of various sizes and lengths of wire. Identify components in a simple schematic diagram.
F. Series Circuts 1. Characteristics 2. Voltage, Current, Resistance & Power Relationships 3. Construct and Test	Identify a series circuit. Know voltage & current distribution in a series circuit. Calculate

G. Parallel Circuits
   1. Characteristics
   2. Voltage, Current, Resistance & Power Relationships
   3. Construct and Test

F. Magnetism

voltage, current, resistance and power for every component. Design a voltage divider for a specified voltage. Construct a series circuit and measure voltage, current, and resistance. Identify a Parallel circuit. Know Voltage, current, resistance & power for every component. Calculate parallel circuit. Construct a parallel circuit and measure current, voltage and resistance.
-Know how common magnetic devices operate.
-Know relationship between current and magnetism.
Apply left-hand rule for Generators & electromagnets.

UNIT 2 AC CIRCUITS
(6 weeks)

A. AC Waveforms
   1. Basic drafting tool useage
   2. Amplitude Conversions
   3. Frequency-period conversions
   4. AC measurement of amplitude frequency, period & rise time

B. Components
   1. Inductors
   2. Transformers
   3. Capacitors
   4. AC Sources

Each student will be able to:
Use basic drafting tools to draw a sinewave.
-Know conversion factors.
-Know and compute peak-to-peak, peak, rpm's and average values.
-Know frequency-period relationship and convert one to the other.
Use an oscilloscope & measure peak-to-peak, period and risetime fo waveforms.
-Know the symbols and units for inductors, transformers, capacitors and AC sources.

C. Inductive Circuits
   1. Voltage-current phase relationships
   2. Voltage, Current, Impedance and power relationships
   3. Construct & Test

D. Tuned Circuits
   1. Resonance
   2. Series Tuned Circuits
      a. Characteristics
      b. Applications
      c. Measurements
   3. Parallel Tuned Circuits
      a. Characteristics
      b. Applications
      c. Measurements

-Know the theory of operation and function of inductors, transformers, capacitors and AC generators. Calculate voltage, current, impedance and AC generators. Measure transformer turns ratio. Calculate total inductance for series and parallel inductors.
-Know phase relationships between voltage and current for resistors, inductors, and generators. Calculate inductive reactance, circuit impedance and phase. Draw vector diagram for voltages, currents and impedances. Calculate L/R times and solve transient problems. Construct and measure voltages and phase. Calculate total Capacitance for series and parallel capacitances. Calculate RC times and solve transient problems.
-Know phase relationships between voltage and current for resistors, capacitors and generator. Calculate resonant frequency. Understand variation of reactance and phase with

frequency above, at and below resonance. Identify series and parallel tuned circuits.
-Know characteristics of series and parallel tuned circuits.
-Know relationship between Q, band width and resonant frequency. Construct tuned circuts, measure and graph frequency response curves.

CLARK COUNTY VOCATIONAL SKILLS CENTER
ELECTRONICS PROGRAM

UNIT 3 SEMICONDUCTORS
(1 week)

A. Theory

1. Types
2. Biasing & Conduction

B. Devices
1. Diodes
2. Transistors
3. SCR & Triacs
4. IC's

Each student will be able to:
-Know the chemical elements used to make semiconductors.
-Know how acceptor and donor atoms give rise to holes and electrons as current carriers. Understand the relationship between current flow and forward-reverse biasing. Identify characteristics of P and N materials. Identify symbols and names of terminals for diodes, transistor, SCR's and triacs. Use ohmmeter to test diodes and transistors. Explain current flow conditions in a diode, transistor, SCR and triacs. Locate pin numbers on IC's. Use literature to specify integrated circuit usage. Identify SSI, MSI and LSI chips.
-Know at least 2 applications for diodes, transistors, SCR's and triacs.

UNIT 4
PRINTED CIRUIT BOARDS
(week 1)

A. Printed Circuit Boards

1. Layout
2. Fabrication
3. Component Stuffing

Each student will be able to:
Use drafting tools and aids to design a PCB layout for a circuit consisting of at least six different types of components (must include an IC). Process a PCB to a completed board ready for components. Stuff components onto a Board.

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UNIT 5 SOLDERING/DESOLDERING
(1 week)

A. Soldering 1. Solder characteristics 2. Tool care 3. Soldering skill B. Desoldering 1. Tools and materials 2. Desoldering skill	The student will be able to: know types & characteristics of solder. . Know proper solder tool care. Prepare parts for soldering operation. Solder parts, including I.C.'s to P.C. boards. Use desoldering tools to remove parts, including I.C.'s from P.C. boards.

UNIT 6 POWER SUPPLIES
(1 week)

A. Half-Wave Rectifier B. Full-Wave Rectifier 1. Two diode type 2. Bridge type C. Filters (Capacitive) D. Regulators 1. Zener 2. I.C. type 3. Series transistor	The student will be able to: - Know current path and direction in a half and full wave rectifier for both halves of an AC voltage. - Explain output waveforms for half & full wave rectifiers. - Draw schematic for two diode and bridge type rectifiers. - Compare output voltage magnitudes of two diode and bridge type. - Explain how a capacitor filters the full wave rectifier output. - Construct and measure peak-to-peak voltages, AC ripple, and DC average values for filtered rectifiers. - Calculate voltages throughout a power supply. know how a zener regulator circuit works.

- Determine sizes of components for a zener regulator.
- Use an I.C. type regulator.
- Explain how a series transistor regulator works.
- Design a series transistor regulator.
- Build and test a zener regulator, IC regulator and series transistor regulators.

UNIT 7 AMPLIFIERS
(4 weeks)

A. Transistor Biasing
   1. B-dependent
   2. B-independent

B. Amplifier Types
   1. Common Emitter
      a. Characterisitics
      b. Measurements
      c. Applications
   2. Common Collector
      a. Characteristics
      b Measurements
      c. Applications
   3. Common Base
      a. Characteristics
      b. Measurements
      c. Applications
   4. Push-Pull
      a. Characteristics
      b. Measurements
      c. Applications
   5. IC
      a. Characteristics
      b. Measurements
      c. Applications

The student will be able to:
calculate voltage, current, & resistors for given bias conditions of B-dependent and B-Independent circuits.
- Know how each resistor affects the Q point of a transistor.
- Identify a CE, CC, CB and push-pull amplifier.
- Explain how a CE, CC, CB & push-pull amplifier works.
- Measure the voltage gain and phase difference for a CE, CC, CB and push-pull amplifier.
- Know the common applications of a CE, CC, CB and push-pull amplifier.
-Calculate input and output impedances.
- Measure input and output impedances.
-Calculate voltage, current and power gains.
- Design CE, CC and CB amps to meet specified requirements.
- Use IC amplifiers.

- Design and test OP amps that mix, invert, non-invert and take the difference of two signals.
- Know the three basic amp coupling techniques (RC, transformer and direct).

UNIT 8 OSCILLATORS
(2 weeks)

A. Basic Theory

B. Sinewave
   1. Armstrong
   2. Hartley
   3. Colpitts
   4. Crystal

C. Squarewave
   A. Discrete transistor
   B. IC types

D. Triangular

E. Ramp

F. Pulse

The student will be able to:
-Know fundamentals common to all oscillators.
- Know theory of operation of each type of oscillator.
- Build and test each oscillator.
-Know the common characteristics and applications of each type.

UNIT 9 TRANSMITTERS & RECEIVERS
(1 week)

A. AM

B. FM

C. TV

D. Recorders (audio/video)

The student will be able to:
-Know the theory of operation at the block diagram level of each system.
- Know the characteristics and applications of each system.
- Build and test an AM receiver.

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UNIT 10 DIGITAL
(6 weeks)

A. Number Systems
   1. Binary, decimal, BCD & hexidecimal characteristics
   2. Conversions
   3. Applications

B. Logic Gates
   1. Symbols
   2. Characteristics

C. Arithmetic Circuits
   1. Adders
   2. Subtracters

D. Flip-Flops
   1. R-S
      a. Characteristics
      b. Applications
   2. Type D
      a. Characteristics
      b. Applications
   3. J-K
      a. Characteristics
      b. Applications

E. Counters
   1. Up/Down
      a. Characteristics
      b. Applications
   2. Modulo Counters
      a. Charateristics
      b. Applications

F. Shift Registers
   1. Types
   2. Applications

G. Memories
   1. ROM, PROM, ERROM
   2 RAM

The students will be able to:
count in binary & hexidecimal
- Convert numbers between binary, decimal, BCD and hexidecimal.
- Know uses of various numbering systems.
- Know symbols and truth tables of common logic gates.
- Use gates to design decoders.
- Know difference between full and half adders.
-Know how to add and subtract binary numbers.
- Know common terms of a word, such as bit, byte, LSB, MSB.
- Use 2's complement arithmetic to convert numbers to negative sign.
- Know how to build a R-S FF using either NAND or nor gates.
- Generate a truth table for both a NAND or type R-S FF.
- Build and test the operation of a R-S FF
- Describe a bounceless switch.
- Know the uses of a R-S FF.
- Know how to build a D FF using either NAND or nor gates.
- Generate a truth table for both NAND and nor type D FF.
- Determine what logic level loads or stores a bit in each type of D FF.
- Build and test the operation of a D FF.

H. Multiplexer, Demultiplexer

- Know when a J-K FF can change state.
- Know the truth table for a J-K FF.
- Test the operation of a J-K FF.
- Know the applications of a J-K FF.
- Know how FF's are connected to form up and down counters.
- generate binary outputs for up and down counters as a function of input pulses.
- Understand how counters can be pre-set to a specific count.
- Build and test up and down counters, using J-K's.
- Use the 7493 counter as both an up and down counter.
- Analyze a given modulo circuit to determine the modulo.
- Know common applications for counters.
- Identify shift direction of register connection.
- Build and test shift registers.
- Know characteristics and applications of each memory type.
- Build and test circuits using RAM.
-Know characteristics and applications of multiplexers and demultiplexers.
- Build and test circuits which multiplex signals and then demultiplex.

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UNIT 11 TEST EQUIPMENT
(1 week)

A.	Power Supplies	The student will be able to: - Adjust P.S. for given voltage. - Connect P.S. to a circuit. understand current limiting adjustment of P.S. - Know how to use meter on P.S. to measure voltage or current. - Connect meter to circuit correctly to measure desired quantity. - Know safety procedure for meters. - Measure voltage, current and resistance using both vom and digital multimeter. - Connect generator to a circuit. - Adjust generator for waveform, frequency and amplitude desired. -Know what each control does and when to use it. - Measure both AC and DC portions of a waveform.
B.	Multimeter (Digital and Vom)	
C.	Function Generator	
D.	Oscilloscope	
E.	RF Generator	
F.	RLC Meter	

UNIT 12 SAFETY

A.	High Voltage	The student will be able to: - Know and practice safety procedures used around voltages over 50 volts. - Know and practice safety in cutting wires and soldering. - Know and practice safety in handling fragile parts. - Know and practice safety in using equipment.
B.	Mechanical (Soldering, Cutting Wires)	
C.	Equipment Safety	

CLARK COUNTY VOCATIONAL SKILLS CENTER
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XIII. HUMAN EFFECTIVENESS

A. Student Organizations
   1. VICA
      a. Organization
         1) Officers
         2) Committees
         3) Classroom/Lab Management
      b. Program of Work
      c. Competitions

The student will describe the structure of VICA. Each student will participate in a committee.

   2. Committees
      a. Types
         1) Standing
         2) Special
      b. Ingredients
         1) Members
         2) Purpose
         3) Time to Report
      c. Organizational Structure
         1) Chairman
         2) Secretary
         3) Sub Committee

The student shall: distinguish between standing and special committees; list the purposes of each type of committee; know the 3 main requirements used in forming a committee; serve on a committee.

   3. Parliamentary Procedures
      a. Agenda
         1) Purpose
         2) Content
         3) When to Distribute
      b. Minutes of the Meeting
         1) Contents
         2) Format
      c. Procedures
         1) Adjournment
         2) To rise to a question of privilege
         3) To lay on the table
         4) To call for the previous question
         5) To refer to a committee
         6) To amend a main motion (to amend an amendment)
         7) Main motions
         8) To take from the table
         9) To rise to a point of order
         10) To rise to parlimentary inquiry
         11) To appeal from the decision of the chair
         12) To call for a division of the house
      d. Handling Motions

The student shall: state the reason for an agenda; develop an agenda using correct format; state when to distribute an agenda; learn the proper contents in writing minutes for a meeting; record a set of minutes at a meeting; state the purpose of each procedure; use the proper terminology in an actual meeting.

B. Human Relations

1. Presentation
   - a. Posture
   - b. Clothing
   - c. Personal grooming
   - d. Verbal and non-verbal communication skills (See Unit C on Communications)

The student will look and feel like a successful individual.

2. Cooperation
   - a. Being accepted
   - b. Observing rules
   - c. Carrying your own weight
   - d. Don't impose on others
   - e. Developing tolerance
   - f. Tips on getting along
     1) Accept praise gracefully
     2) Share the credit
     3) Flatter people sincerely
     4) Don't flaunt special privileges
     5) Let everyone be a winner
   - g. Teamwork
     1) Sharing/delegating responsibilities
     2) Rewards/recognition

The student will demonstrate a cooperative attitude in the classroom.

3. Problem Solving
   - a. Identifying conflict
   - b. Gaining empathy
   - c. Maintaining integrity
   - d. Conflict resolution
     1) Identifying alternative
     2) Considering consequences
     3) Troubleshooting questions
   - e. Negotiating
   - f. Reaching a decision
   - g. Evaluation

The student will list logical problem solving techniques.

4. Self Esteem
   - a. Achievement
   - b. Recognition
   - c. Interest in work
   - d. Responsibility
   - e. Possibility for growth and advancement

The student will state the values of having self respect and good self concept.

5. Self Assessment
   - a. Who are you?
   - b. Value system
   - c. Liking yourself
   - d. Relationships
   - e. Recognize work style

   The student will describe a strategy for building self confidence.

6. Goal setting
   - a. Short and long term goals
   - b. Goal setting guidelines
   - c. Priority setting
   - d. Changing priorities
   - e. Making trade-offs

   The student will list long and short term goals.

7. Group Leadership
   - a. Identifying leader qualities
   - b. Leadership styles
     1) Dictator approach
     2) Motivational approach
     3) Laissez-Faire approach

   The student will demonstrate leadership through role playing.

8. Labor/Management Relations
   - a. Understanding an employer
   - b. What an employer expects from an employee
   - c. What it's like to be an employer
   - d. Labor unions

   The student will have an understanding of both labor and management and an empathy for both.

9. Social Skills
   - a. Manners
     1) handshaking
     2) introductions
   - b. Table manners
   - c. Common courtesies

   The student will demonstrate attributes of a socially accepted successful professional.

C. Communications

1. Listening
   - a. Recognizing bad listening habits
   - b. Acting like a good listener
   - c. Listening to understand
   - d. Responding to verbal communication

   The student will explain and practice acting like a good listener and listening to understand.

2. Speaking
   - a. Keys to effectiveness
   - b. Tone of voice
   - c. Giving directions
   - d. Courteous introduction
   - e. Interrupting
   - f. Answering telephone
   - g. Answering client questions
   - h. Reporting condition to supervisor

   The student will explain and practice speaking in listed situations.

3. Non-Verbal a. Body language b. Behavior c. Appearance d. Facial expression e. Positive and negative gestures f. Responding to non-verbal communication	The student will explain the importance of non-verbal communication and provide examples.
D. Professional Ethics 1. Occupational Code of Ethics 2. Need for ethics	The student will practice sound judgement through classroom activities.
E. Time Management 1. Time Wasters a. Phone calls b. Inability to say "no" c. Unclear goals d. Apathy e. Interruptions f. Procrastination	The student will be able to analyze time losses by completion of a daily time log. The student will list ten time wasters and methods to correct these wasters.
2. Set Goals for Your Time a. Daily b. Weekly c. Monthly	The student will write down two goals aimed at better use of his/her time.
3. Get a Grip on Time a. Get organized b. Eliminate time barriers	The student will demonstrate improved time management by completing and following a one week time plan.
4. Time Saving Tips and Strategies	The student will list ten time saving tips.
F. Transactional Analysis 1. Maturity a. Think and act as adults b. Make comparisons of attitudes c. Create business environment d. Responsibilities of adulthood 1) Financial 2) Emotional 3) Scholastic	The student will develop the ability to converse and get along with others. Aware and able to "cope" with people and understand their problems. Use diplomacy in alleviating problems or potential problems.
2. Initiative and Motivation a. Provide proper directions b. Clearly state the rewards c. Have clear-cut goals d. Give precise instructions e. Be thorough f. Be a good "sounding board"	Student is inquisitive and explores alternate solutions. Constantly seeking new knowledge. Develop a committment to school and work world.

3. Self Discipline and Responsibility a. Be a good example b. Clearly state the rules c. Display trust and reliability d. Delegate responsibility e. Be consistent and sincere 4. Five Steps to Learning a. Develop interest b. Create desire c. Which develops into enthusiasm d. And gets results e. Reinforcement and praise create inertia	The student will be able to diplomatically accept and correct situations as a result of constructive criticism. Ability to monitor and schedule time effectively, and to proceed with little or no supervision.
G. Job Finding Skills 1. Analyze Job Market a. Job requirements b. Projected growth c. Career progressions d. Personal goals e. Skills assessment	The student will demonstrate the ability to research the needs of the industry and personal needs and goals.
2. Job Search a. Newspaper b. Yellow pages c. Trade journals and business publications d. Network - word of mouth e. Employment offices f. Vocational instructors	The student will research available sources and will list all possible job opportunities.
3. Resume a. Describe resume function b. Essentials of resume c. Preparation techniques	The student will write a resume that would be acceptable to an employer in the particular career.
4. Application Forms/ Cover & Follow-Up Letters	The student will successcomplete an application form and compose suitable career search correspondence.
5. Personal Appearance a. Cleanliness b. Grooming c. Dress d. Posture e. Image projection	The student will demonstrate acceptable appearance when applying for a job.

6. Selling Oneself/Interview Techniques a. Communicate b. Research interviewing employer	The student will demonstrate leadership skills while practicing the personal interview.
7. CCVSC Follow Up & Placement Procedures	The student will understand follow up and placement procedures.

VI TYPE OF INSTRUCTION

Instruction will include 540 hours per youar of classroom and laboratory experiences, use of quest lecturers, field trips, and numerous AV material will be used.

VII FACILITIES

A. Rooms and Square Foot Areas

1. Electronics Lab/Classroom	1,464 s.f.
2. Storage and Tool Room	192 s.f.
3. Special Lab	100 s.f.
4. Office and Conference Rooms	100 s.f.
5. Total Square Feet	1,856 s.f.

VIII ADVISORY COMMITTEE

The Electronic's Technology Advisory Committee met on a regular basis during the planning of the facility, program, and curriculum. Members are:

Darrell Anderson
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256-5015

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Brent Stephens
Fort Vancouver High School
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IX. INSTRUCTOR'S JOB DESCRIPTION

ELECTRONICS TECHNOLOGY INSTRUCTOR

Instruct high school juniors and seniors in skills leading to entry level employment in electronics technology or leading to continuing higher education. In-depth instruction will include three hours of instruction, balanced between classroom theory and lab applications. The instructor will work closely with industry groups and a representative advisory committee in developing and upgrading the program curriculum and in the placement of program completors in jobs.

QUALIFICATIONS

1. Minimum 5 years varied electronics technology experience.
2. Qualifies for or willing to meet qualifications for vocational teaching certificate.
3. Supervisory experience and/or teaching experience preferred.
4. Demonstrated ability to relate to young people.
5. Demonstrated skills in human relations.
6. Demonstrated ability to be organized.
7. Ability to perform routine basic maintenance on electronics equipment.
8. Interest in student leadership development.
9. Demonstrated professional growth through participation in in-service and professional organization involvement.

PERFORMANCE RESPONSIBILITIES

1. Provide sound learning environment and instructional program.
2. Teach one or two sections, depending on enrollment.
3. Develop and update curriculum competencies, working in cooperation with an industry advisory committee.
4. Work with other instructors in the sending high schools or at the community college to maintain a good working relationship and a positive Skills Center image.

5. Provide the development of student leadership, an understanding of the free enterprise system, and human relations as an integral part of the curriculum.

6. Work with cooperating high schools in program promotion and student recruitment.

7. Maintain individual student records and report progress to appropriate personnel.

8. Develop, meet with, and maintain an effective advisory committee.

9. Assume supervisory (student) responsibilities as assigned.

10. Organize, manage, and appropriately maintain the instructional facility, equipment, and resources which will serve as a positive model to students and provide for a safe working environment.

11. Keep current professionally by taking related courses, returning to business during the summer, and maintaining involvement in professional organizations.

12. Participate in inservice activities conducted by the Evergreen School District and the Skills Center Director.

13. Maintain contact with the industry through visitations.

14. Establish and work toward short- and long-term goals aimed at improving the program and instruction.

15. Perform other duties as assigned.

X. PLANS FOR JOB PLACEMENT & FOLLOW UP

The instructor, through industry contacts and the Skills Center vocational counselor/job development coordinator, will work to place students in jobs upon completion of the program. Follow-up will be completed on a 1-, 3-, and 5-year schedule.

CLARK COUNTY VOCATIONAL SKILLS CENTER

Food Occupations Course Synopsis

OCCUPATIONAL IDENTIFICATION

The Food Service course will meet five days a week, three hours a day, for two years. The first year of the course will prepare the student to enter the food service industry. Completing the second year, the student can enter this occupation as an apprentice cook and advance to more responsible positions. This course utilizes the completely equipped modern facilities to provide the finest training available. The type of cooking done, and the skill required will vary from one operation to another. Students will be trained in all practical and related phases of the kitchen and dining room management and operation. Related instruction will run concurrent with practical instruction throughout the course.

This program provides an excellent preparation for entrance into this expanding occupation.

CURRICULUM CONTENT

RELATED INSTRUCTION	HOURS 1st Year	HOURS 2nd Year
Occupational Information	8	6
Trade Terminology/Menu Plan.	24	
Trade Terminology		12
Oral & Written Communication	8	6
Trade Science	12	6
Safety & Sanitation	20	18
Kitchen Management & Ldrdshp.	64	12
Kitchen, Dining Room & Restaurant Mgmt. & Ldrship.		42
	136	102

PRACTICAL INSTRUCTION		
Use & Care of Tools & Equip.	24	18
Kitchen Equipment Operation	24	30
Hand & Machine Dishwashing	32	12
Food Preparation	184	236
Group Feeding	112	64
Bread & Pastry Baking	20	48
Meat, Fish & Poultry	8	18
Restaurant Management		12
	404	438

A working attitude, human relations, working with the public, fellow employees/students and team work are stressed daily.

Daily attendance in class is a primary requirement for satisfactory evaluation.

#1 Service-Short Order Cook - S.S.O.
#2 Chef Cuisine - C.C.

ACADEMIC

Attitude Training

S.S.O. Elementary Kitchen Management
Basic Menu Construction
Basic Nutrition
Recipe Conversion
Inventory Control
Labor Costing
Yield Tests
Kitchen Terminology

Attitude Working With Others

C.C. Purchasing
Receiving, Storing
Daily Records
Food Costing
Recipe Conversion
Kitchen Terminology Into Practice
Menu Planning

PHYSICAL

Attitude into Work Areas
Cashiering
Hosting
4 Service
2 Busing
2 Beverage
2 Counter Service
2 Booth Service
Dessert Cart
Side Counter
4 Sanitation

C.C.	A.M.	P.M.
	Garde Manger	Garde Manger
	Sandwich	Grill - gas
	Salad Prep	Grill - electric
	Dressings	Deep Fry
	Vegetables	Steam Fry
	Grill Prep	Steam Table Service
	Entree	Kitchen Counter Service
	Baker	Bakery - retarded for AM
	Pastry	
	Cakes	
	Sanitation	

Course Objectives:

A. Knowledge: Upon completion of the program, the student will be able to:

1) Describe sanitation requirements in the food industry
2) Define terms commonly used in the restaurant trade such as whipping, beating, frying and sauteing
3) List the proper sequence followed in customer service
4) Recognize and explain differences in quality among various food service establishments
5) Discuss the function of the purveyor(supplier)
6) Describe the major areas of the food service industry, including baking, equipment, food assembly, meat cutting, vegetable preparation, pantry, and dining room
7) Define commonly used menu terms such as a la carte, filet, and hors d'oeuvres
8) Describe the cutting of meat from whole quarters to the finished product
9) Apply basic math in a job situation

B. Skills: Upon completion of the program, the student will be able to perform at least entry-level work in each of the seven areas the program is organized around and will be able to:

1) (Equipment) wash pots and pans, operate a dishwasher, sharpen knives, and keep equipment located and ready to use
2) (Food assembly) prepare and cook a variety of foods including soups, sauces, meats, vegetables and certain specialties
3) (Meat cutting) use a boning knife, steak knife, meat saw, and to tie meat for roasting
4) (Vegetable preparation) use a French knife to prepare fresh fruits and vegetables for use in the food assembly and pantry areas
5) (Baking) make pies, cakes, pastries and desserts
6) (Pantry) prepare cold dressings, sauces, salads, sandwiches, and decorative items
7) (Dining room) perform table, cafeteria and buffet service, to operate a cash register, and learn the art of decorations

In order to perform the above skills the student will be able to:

1) Operate industrial equipment such as ranges, ovens, and mixers
2) Use hand tools such as knives
3) Read and follow written directions for preparing food
4) Identify types of foods
5) Identify quality of preparation in the finished product

C. Attitudes:

Throughout the program the student will demonstrate appropriate attitudes required to obtain and retain employment in the food industry by:

1) Maintaining good attendance
2) Working independently when required
3) Working with a small group to produce a finished product
4) Accepting and acting on suggestions
5) Maintain personal grooming in keeping with sanitation standards required by the industry
6) Keep work area clean and orderly

Placement and Follow-Up

1) Placement and follow-up - Begins early in the program; by encouraging trainees to secure social security cards, driver's licenses and transportation if they do not already have these
2) Contact with employers and training institutions - In keeping with the objectives of preparing trainees for entry-level employment and/or advanced training, contacts are maintained with both prospective employers and staffs of post high school training institutions. The instructors, with their contacts developed over the years in the foods industry, are the key people in these efforts
3) Placement - When job openings come to the attention of the staff, efforts are made to refer trainees who are ready to handle the particular job. Consideration is given particularly to the known objectives of the individual and apparent opportunities related to the specific job
4) Follow-Up - Follow-up is maintained for several reasons
   a. For the purpose of evaluating the programs overall success
   b. For assisting trainees who wish to enter the food industry at a later date.
   c. For assisting graduates to secure better jobs

FOOD SERVICE COMPETENCIES

1. DISTINGUISH BETWEEN KNIVES AND USE FRENCH KNIFE
2. FOLLOW DIRECTIONS AND ACCEPT CONSTUCTIVE CRITICISM
3. OPERATE DISHWASHING MACHINE
4. WASH POTS AND PANS; KEEP SINKS CLEAN
5. OPERATE AND MAINTAIN SLICER
6. OPERATE AND MAINTAIN FOOD CHOPPER AND GRINDER ATTACHMENT
7. OPERATE MIXER WITH ALL THREE ATTACHMENTS
8. USE BROOM, MOP, AND VACUUM CLEANER
9. OPERATE AND FILTER ELECTRIC AND GAS DEEP FAT FRYER
10. OPERATE CONVECTION OVEN AND BAKE OVEN
11. USE STORAGE AND ROTATE STOCK
12. MAKE SANDWICHES AND SANDWICH FILLINGS; WRAP SANDWICHES
13. KNOW SAFETY AND SANITARY RULES
14. SHARPEN KNIVES
15. USE ALL MEASURES
16. OPERATE ELECTRIC CASH REGISTER; MAKE CHANGE, BALANCE MONIES
17. BREW COFFEE; MAINTAIN SOFT DRINK DISPENSER
18. WORK COOPERATIVELY WITH OTHER STUDENTS
19. MAKE VEGETABLE SALADS INCLUDING CHEF SALAD, AND GELATIN SALADS
20. MAKE SWEET DOUGH; BAKE SWEET ROLLS
21. MAKE, BAKE, AND CUT PIZZA
22. MIX AND BAKE CAKE AND COOKIES
23. SET TABLES FOR LUNCHEONS
24. FOLLOW RECIPES AND CONVERT RECIPES
25. SET UP AND OPERATE GRILL STATION
26. OPERATE ELECTRONIC CASH REGISTER AND BALANCE CASH

27. SET UP AND CLEAN FAST FOOD AREA

28. MAKE AND BAKE PASTRIES

29. DECORATE CAKES

30. MAKE SINGLE-CRUST AND DOUBLE-CRUST PIES AND FILLINGS

31. MAKE SPECIALTY SANDWICHES

32. KEEP WORK AREA, EQUIPMENT AND UTENSILS CLEAN

33. SERVE FOOD FROM STEAM TABLE

34. WELCOME AND SEAT PATRONS

35. SERVE CUSTOMERS' FOOD

36. WRITE, ITEMIZE AND TOTAL A BILL

37. CLEAR AND RESET A TABLE QUIETLY

38. PREPARE GARNISHES

39. PLAN MENU

40. TAKE INVENTORY

41. PLAN FOR FOOD PREPARATION AND PORTIONING

42. ESTIMATE PROFIT AND LOSS

43. APPLY FOR A POSITION

44. CONDUCT A JOB INTERVIEW

45. CALL IN AN ORDER FOR SUPPLIES AND CHECK IN A DELIVERY

NURSING ASSISTANT CURRICULUM

by

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Nursing Assistant Class
Clark County Vocational Skills Center
12300 NE 28th Street
Vancouver, WA 98662

Main Resources Used:

1. Being A Long Term Care Nursing Assistant, by Will and Eighmy, 1983, Robert J. Brady Co., Bowie, Maryland 20715.

2. Being A Nursing Assistant, HRET, 2nd edition, Robert J. Brady Co.

3. Job Entry Standards For Nursing Assistants, by Betty Quatier, RN 1980, Washington State SPI, Olympia, WA 98504.

4. Medical Assistant Curriculum, by Sloan, 1981, Oklahoma State Board of Vocational and Technical Education, Stillwater, OK 74074.

5. A Secondary Curriculum Guide For Health Occupations Education In Washington State, by Muriel Oaks, Washington State University, Pullman WA, 99164-2110.

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NURSING ASSISTANT

OCCUPATIONAL IDENTIFICATION (D.O.T.)

I. This program prepares students for entry positions as a Nursing Assistant (355.674-014). Graduates are Certified Nursing Assistants in the state of Washington. The program has been approved by the Washington State Superintendent of Public Instruction Office and the Washington State Board of Nursing.

II. NEED

The Portland Metropolitan Area continues to have a high demand for Nursing Assistants according to the 1978-1986 statistics from the State of Oregon Employment Division. This is reflected in continuing job openings in the Vancouver area. Finally, the local advisory board also has noted a continuing need for nursing assistants.

III. STUDENT CHARACTERISTICS

This 450 hour program is designed for high school juniors and seniors who have the interest in pursuing a career in the health care field, especially in the nursing area.

CLARK COUNTY VOCATIONAL SKILLS CENTER
NURSING ASSISTANT PROGRAM

IV. CURRICULUM CONTENT AND JOB COMPETENCIES

NURSING ASSISTANT CLASS: 2.5 hours daily for 180 days (Three 50-minute periods daily.)

Unit	Actual Hours	Title
1	2.5	Orientation
2	15.0	Human Relations
3	12.5	Health Care Careers
4	12.5	Finding A Job
5	7.5	Nursing Assistant Role
6	10.0	Introduction To The Patient
7	15.0	Communication
8	15.0	Safe Patient Environment
9	20.0	Vital Signs
10	15.0	Patient Unit; Admission and Discharge
11	10.0	Positioning and Moving
12	10.0	Transfer and Ambulation
13	20.0	Personal Hygiene And Skin Care
14	12.0	Nutrition
15	20.0	Fluid Balance and Elimination
16	12.5	Nervous and Reproductive Systems
17	7.5	Respiratory System
18	10.0	Care Of The Dying Patient
19	5.0	Orientation To Clinical Experience
20	160.0	Clinical Experience
21	43.0	Leadership Projects And Independent Study

V. CURRICULUM CONTENT

UNIT 1 - ORIENTATION
(2.5 hours)

1. General Class Policies a. Safety b. Behavior c. Grading d. Leadership e. Continuing education f. Certificate of competency g. Textbook h. Uniform	The student will explain and follow general class policies.
2. Skills Center Policies a. Safety b. Behavior c. Attendance d. Absences e. Time clock f. Driving g. Smoking	Explain and follow Skills Center policies.
3. Clinical Area Policies a. Immunization b. Transportation c. Uniform d. Grading	Explain and follow clinical policies.
4. Classroom Safety a. Safety hazards b. Accident prevention c. Incident reports	Explain and follow classroom safety policies.

UNIT 2 - HUMAN RELATIONS
(15 hours)

1. Listening (1.5) a. Bad listening habits b. Look like a good listener c. Listen to understand	Explain and practice "active listening".
2. Communications (1.0) a. Key to human relations b. Blocks c. Effectiveness	Explain and practice the rules for effective communication.

3. Human Relations (2.5) a. Communicating emotions b. Communicating ideas c. Emotional control d. Attitude of understanding e. Person and non-person f. Recognition g. Constructive criticism	Explain and practice the elements of good human relations.
4. Goal Setting (2.5) a. Class goals b. Plan of action c. Need for organization d. Class Offices (incl. VICA) e. Elections	Participate in setting and achieving class goals.
5. Committee Work (2.5) a. Types b. Ingredients c. Successful results	Participate in committee both as leader and member.
6. Cooperation (1.0) a. Being accepted b. Observing rules c. Carrying your own weight d. Don't impose on others e. Getting along f. Teamwork	Explain and practice cooperation in the classroom.
7. Problem Solving (1.0) a. Identify problem b. Gain empathy c. Maintain integrity d. State your side e. Listen to other side f. Negotiate an agreement	List logical steps in solving a problem.
8. Group Leadership (0.5) a. Qualities of a leader b. Styles	List qualities and styles of group leader.
9. Meetings (2.5) a. Agenda b. Minutes c. Rules for smooth, fair and effective meetings (Parliamentary procedure)	Conduct meeting using an agenda and parliamentary procedure. Take the minutes of a meeting.

CLARK COUNTY VOCATIONAL SKILLS CENTER
NURSING ASSISTANT PROGRAM

UNIT 4 - FINDING A JOB
(12.5 hours)

1. Resume' (2.5) a. Purpose b. Appearance c. Contents d. Steps in writing e. Cover letter	Prepare a resume.
2. Job Search (0.5) a. Want ads b. Nursing journals c. Yellow pages d. Employment services e. Relatives and friends f. Teachers g. Student follow-up service (CCVSC)	Identify several current job openings for nursing assistants.
3. Application (1.0) a. Purpose b. Appearance c. Contents	Fill out an application for a job.
4. Interview (6.5) a. Making the appointment b. Purpose c. Preparation d. Appearance e. Manners f. Answering questions g. Asking questions	1. Participate in a job interview. 2. Self-evaluate own interview using VICA Skill Contest form.
5. Job Offer (1.0) a. Duties b. Facility c. Pay d. Benefits e. Cost f. Personal goals g. Labor-management situation	Evaluate a job offer.
6. Continuing Education (1.0) a. Questions on the job b. Classes c. Personal reading d. Libraries e. Professional associations	1. Fill out college application for admission form. 2. Read and write report on articles in current nursing journals.

UNIT 5 - NURSING ASSISTANT ROLE
(7.5 hours)

1. Health Care Facilities (0.5) a. Types b. Purposes	Compare and contrast long term and short term care facilities
2. Nursing Service (0.5) a. Nursing care team b. Chain of command	Describe the chain of command.
3. Nursing Assistant Role (1.0) a. Job description b. Personal qualities c. Daily routine d. Dress code e. Personnel policies	1. List six tasks performed by nursing assistants. 2. Evaluate personal qualities.
4. Legal Aspects (1.5) a. Washington State N.A. Law (1979) b. Patient rights and duties c. Nurse's legal duties	1. Explain four main patient rights and corresponding health care worker duties. 2. Respect patient rights and report any suspected violations.
5. Ethics (4.0) a. Geriaide Code b. Nightengale Pledge c. Hippocratic Oath d. Declaration of Geneva e. Contemporary ethical crises: abortion, infanticide and euthanasia.	1. Explain the difference between ethics and law. 2. Explain what is meant by a "conscience clause" for health care workers.

UNIT 6 - INTRODUCTION TO THE PATIENT
(10 hours)

1. Physical (Survival) Needs (2.5) a. Structure and function of the body: 1) Terminology 2) Levels of organization 3) Systems b. Nursing assessment c. Nursing action d. Influence of aging	1. List the physical needs. 2. List indicators that the need is not being met. 3. Describe nursing action to meet the need.

2. Emotional Needs (1.0)
   a. Nursing assessment
   b. Influence of aging

1. List the emotional needs.
2. List the indicators that the
3. Describe nursing action to meet the need.

UNIT 7-COMMUNICATION
(15 hours)

1. Sensory system (2.5)
   a. Eye
      1) Changes of aging
      2) Abnormalties
      3) Health maintenance
   b. Ear
      1) Changes of aging
      2) Abnormalties
      3) Health maintenance
   c. Taste, smell and touch
   d. Problems
      1) Sensory deprivation
      2) Visual impairment
      3) Hearing loss

Help patient compensate for sensory changes of aging.

2. Speaking (2.5)
   a. Courteous introduction
   b. Interrupting a conversation
   c. Answering the call light
   d. Answering the telephone
   e. Dealing with visitors
   f. Dealing with employer
   g. Emotional control, empathy, and tact in difficult situations.

Practices emotional control, courtesy, and tact.

3. Communication (2.5)
   a. Non-verbal
   b. Verbal
   c. Sending communication to those with receptive difficulties.
   d. Receiving communication from those with expressive difficulties.

1. Respond to verbal and non-verbal communication.
2. Aware of effect of own verbal and non-verbal communication on others.

4. Planning Care (1.0) a. Health care plan b. Daily care planning c. Organization d. Setting priorities	Fill out Care Plan for several patients at nursing home.
5. Observation (2.0) a. What b. Why c. How d. When e. Reporting	Make and report significant observations.
6. Charting (1.5) a. Principles b. Guidelines	Chart care given to patient legibly, neatly, and identify your charting.
7. Terminology (1.5) a. Abbreviations b. Commonly used	Define commonly used abbreviations and terms.
8. Personal Time Management (1.5) a. Time wasters b. Setting goals c. Time saving tips	Complete and follow a one week time plan.

UNIT 8-SAFE PATIENT ENVIRONMENT
(15 hours)

1. Safe environment (0.5) a. Safety first attitude b. Safety hazards c. Accident prevention d. Incident reports e. Environment (temperature, ventilation, light, noise)	1. Practice "safety first" attitude. 2. If in doubt, ask first. 3. Make out incident report. 4. Prevent, correct, or report safety hazards. 5. Maintain comfortable patient environment.
2. Restraints (1.0) a. Purposes b. Types c. Guidelines 1) Safe 2) Humane 3) Effective	Apply restraints.

3. Siderails (0.5) a. Purposes b. Types c. Guidelines d. Geriatric chairs	1. Use siderails. 2. Use Geriatric chair.
4. Fire Safety (0.5) a. Causes of Fire b. Smoking policy c. Fire prevention d. Action in case of fire e. Fire drills f. Evacuation	Explains and practices fire safety.
5. First Aid (5.0) a. Choking 1) Causes 2) Relive airway obstruction 3) Artificial respiration b. Cardiac arrest 1) Causes 2) Cardiopulmonary resuscitation c. Bleeding 1) Direct pressure and elevation 2) Pressure points 3) Tourniquet d. Fractures 1) Splinting	1. Clears airway with back blows, manual thrusts, finger probes, and Heimlich maneuver. 2. Performs CPR. 3. Stops bleeding with direct pressure. 4. Applies splint.
6. Microorganisms (2.5) a. Types b. Growth c. Pathogens d. Transmission routes e. Disinfection f. Sterilization	1. Distinguish between types of microorganisms. 2. Explain conditions needed for 3. growth.
7. Medical Asepsis (2.5) a. Principles b. Practices	1. Washes hands before and after each patient contact. 2. Explains and practices of medical asepsis.

8. Isolation (2.5) a. Communicable disease b. Types c. Protective coverings d. Linen and used articles e. Food service f. Special needs of patient	Practices skin and wound isolation with gown, gloves, and double bagging.

UNIT 9-VITAL SIGNS
(20 hours)

1. Cardiovascular system (2.5) a. Parts b. Changes of aging c. Health maintenance d. Types of heart disease e. Special conditions	Help patient compensate for the cardiovascular changes of aging.
2. Temperature (5.0) a. Core b. Types of thermometers c. Measurement scales d. Oral e. Rectal f. Axillary g. Normal adult range	1. Take oral temperature. 2. Take rectal temperature. 3. Take axillary temperature. 4. Read Fahrenheit thermometers. 5. Read Celcius thermometers. 6. Record temperature. 7. Report unusual reading.
3. Pulse and Respirations (4.0) a. Heart rate b. Radial pulse c. Apical pulse d. Other sites e. Respirations f. Normal adult range	1. Take radial pulse. 2. Take apical pulse. 3. Take respirations. 4. Record pulse and respirations. 5. Report unusual reading.
4. Blood Pressure (8.5) a. Arterial b. Types of sphygmomanometers c. Measurement scales d. Blood pressure e. Normal adult range	1. Take blood pressure. 2. Record blood pressure. 3. Report unusual reading.

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UNIT 10-PATIENT UNIT; ADMISSION & DISCHARGE
(15 hours)

1. Resident's Unit (2.5) a. Equipment b. Bed operation 1) Manual 2) Electric 3) Different positions c. Supplies d. Linen e. Safety f. Infection g. Comfortable environment	1. Operate manual and electric bed. 2. Name and explain use of equipment, supplies, and linen in patient's unit. 3. Maintain neat, comfortable, and safe patient unit.
2. Bedmaking (10.0) a. Body mechanics b. Linen c. Types 1) Open or closed 2) Unoccupied 3) Occupied 4) Surgical (post-op)	1. Make open and closed beds. 2. Make unoccupied bed. 3. Make occupied bed. 4. Make surgical bed.
3. Admission (1.5) a. Welcoming the patient b. Orienting the patient c. Care of personal belongings d. Clothing list e. Measure patient's height and weight	1. Fill out personal belongings form. 2. Use beam scale to measure
4. Transfer And Discharge (1.0) a. Transfer within the facility b. Transfer to another facility c. Discharge home	Check personal belongings form.

UNIT 11-POSITIONING AND MOVING
(10 hours)

1. Positioning (2.5) a. Body alignment b. Wheelchair c. Special devices d. Patient in bed 1) Various positions 2) Precautions	1. Position the patient in a wheelchair. 2. Position the patient in bed. 3. Use positioning devices to prevent contractures.

2. Moving (5.5) a. Body mechanics b. Teamwork c. Using a lift sheet d. Moving patient up in bed e. Turning on side f. Slide patient to one side of the bed g. Logrolling	1. Move the patient in bed. 2. Use good body mechanics.
3. Skeletal system (2.0) a. Parts b. Changes of aging c. Health maintenance d. Abnormalties e. Patient with a cast 1) Preventing complications 2) Observations to make	1. Help patient compensate for skeletal changes of aging. 2. Describe observations to make about the patient with a cast. 3. Perform several flexibility exercises.

UNIT 12-TRANSFER AND AMBULATION
(10 hours)

1. Muscular System (2.0 hrs.) a. Parts b. Changes of aging c. Health maintenance d. Abnormalities	1. Help patient compensate for muscular changes of aging. 2. Perform several muscle strengthening exercises.
2. Range of Motion Exercises (2.5) a. Guidelines b. Types of motion	1. Give active range of motion exercises. 2. Give passive range of motion exercises.
3. Transfer (4.0) a. Guidelines b. Body mechanics c. Safety d. Standing pivot e. Dependent patient f. Bed-stretcher	1. Assist patient to dangle. 2. Get patient into chair and wheelchair. 3. Get patient onto stretcher. 4. Use mechanical patient lift. 5. Use pivot transfer. 6. Transfer dependent patient.
4. Ambulation (1.5) a. Assisting the resident b. Special devices	1. Assist the patient to walk. 2. Use ambulation devices: crutches, walker, wheelchair.

UNIT 13-PERSONAL HYGIENE AND SKIN CARE
(20 hours)

1. Integumentary System (2.5) a. Structure b. Function c. Changes of aging d. Health maintenance e. Effects of immobility f. Skin breakdown 1) Risk factors 2) Prevention	1. Help patient compensate for skin changes of aging. 2. Explain and practice prevention of skin breakdown. 3. Evaluate patient for risk of skin breakdown.
2. Skin Care (11.5) a. Goals b. Bathing 1) Guidelines 2) Complete bed bath 3) Perineal care 4) Tub bath 5) Shower c. Back rub 1) Guidelines 2) Special back rub	1. Give a complete bed bath. 2. Give a partial bed bath. 3. Give a perineal care. 4. Give a shower bath. 5. Give a back rub.
3. Heat And Cold Treatments (1.0) a. Use of heat lamp b. Alcohol sponge bath c. Safety	Explain safe and effective use of heat lamp; alcohol sponge bath.
4. Personal Care (5.0) a. Personal grooming b. Assistive devices c. Oral hygiene 1) Guidelines 2) Routine 3) Dentures 4) Unconscious patient d. Nail care e. Hair care 1) Shampooing f. Shaving g. Dressing h. AM and PM care	1. Help with personal grooming. 2. Give oral care (routine/special) 3. Perform nail care. 4. Shampoo patient's hair. 5. Clean dentures. 6. Shave male patient's face. 7. Help patient dress and undress.

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UNIT 14-NUTRITION
(12 hours)

1. Digestive System (2.5) a. Structure b. Digestion c. Changes of aging d. Health maintenance e. Abnormalities	Help patient compensate for digestive changes of aging.
2. Nutrition (2.5) a. Principles b. Nutrients c. Nutrition and the elderly d. Recording food intake e. Therapeutic diets	Prepare a menu for one week.
3. Mealtime (2.5) a. Preparation of the patient b. Serving the meal c. Feeding the dependent patient	1. Prepare the patient for a meal. 2. Pass trays. 3. Feed the dependent patient.
4. Endocrine System (4.5) a. Glands 1) Endocrine 2) Exocrine b. Changes of aging c. Health maintenance d. abnormalities e. Care of patient with diabetes 1) Carbohydrate metabolism 2) Insulin 3) Complications a) Diabetic coma b) Insulin shock 4) Nursing care 5) Urine Testing a) Sugar b) Ketones	1. Help patient compensate for endocrine changes of aging. 2. Care for patient with diabetes. 3. Test urine for sugar. 4. Test urine for acetone.

UNIT 15-FLUID BALANCE AND ELIMINATION
(20 hours)

1. Urinary System (2.5) a. Structure b. Function c. Changes of Aging d. Health Maintenance	Help patient compensate for urinary changes of aging.

Prepared by Gerald Parmantier, R.N. G-15 August 1983

2. Fluid Balance (2.5) a. Intake b. Output c. Imbalance d. Use of metric system e. Measuring intake f. Measuring output g. I & O record h. Encouraging fluids i. Restricting fluids	1. Measure and record fluid intake and output. 2. Emptying urinary drainage bag. 3. Report unusual intake/output. 4. Encourage fluid intake. 5. Restrict fluid intake.
3. Elimination (3.5) a. Bedpan and urinal b. Commode c. Closed urinary drainage systems 1) Urethal catheter 2) Suprapubic d. Urine specimens e. Urinary incontinence f. Bladder retaining	1. Give and remove bedpan or urinal. 2. Assist patient to bathroom. 3. Assist patient with commode. 4. Give catheter care. 5. Collect routine urine specimen. 6. Collect clean-catch specimen. 7. Collect 24 hour specimen. 8. Care for incontinency. 9. Follow bladder training program.
4. Gastrointestinal Tract (1.0) a. Structure b. Function c. Changes of aging d. Health maintenance	Help patient compensate for intestinal changes of aging.
5. Promoting elimination (11.5) a. Nursing actions b. Laxatives c. Enemas d. Suppositories e. Ostomies f. Stool specimen g. Bowel incontinence h. Bowel retraining	1. Provide regular opportunity for elimination. 2. Use nursing measures to prevent constipation. 3. Give cleansing enema. 4. Give Fleets enema. 5. Give oil retention enema. 6. Change ostomy bag. 7. Care for incontinency. 8. Follow bowel training program.

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UNIT 16-NERVOUS AND REPRODUCTIVE SYSTEMS
(12.5 hours)

1. Nervous System (1.5) a. Structure b. Function c. Changes of aging d. Health maintenance	Help patient compensate for nervous changes of aging.
2. Nervous System Abnormalities (1.5) a. Parkinson's disease 1) Nursing care b. Multiple sclerosis 1) Nursing care c. Seizures 1) Nursing care	Describe nursing care for patients with Parkinsonism, M.S., and seizures.
3. Cerebral Vascular Accident (2.5) a. Risk factors b. Nursing care c. Emotional reaction d. Aphasia	Write nursing care plan for patient with a CVA. Give care to patient with CVA.
4. Reality Orientation (3.5) a. Causes of confusion b. Reality orientation c. Organic brain syndrome 1) Nursing care	Provide reality orientation as part of nursing care. List ten correctible causes of confusion.
5. Reproductive System (3.5) a. Structure and function 1) Male 2) Female b. Changes of aging c. Health maintenance d. Human sexuality 1) Masculine/Feminine 2) Husband/Wife 3) Mother/Father 4) Friendship e. Fertility awareness	1. Respect patient's modesty. 2. Respect patient's privacy. 3. Give perineal care. 4. Give and accept appropriate expressions of affection. 5. Write essay on subject of fertility awareness.

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UNIT 17-RESPIRATORY SYSTEM
(7.5 hours)

1. Respiratory System (2.5) a. Structure b. Function c. Changes of aging d. Health maintenance	Help patient compensate for respiratory changes of aging.
2. Smoking (2.5) a. Health damage b. Psychology of smoking c. "Stop smoking" programs	Describe the physical results of nicotine and marijuana inhalation.
3. Respiratory Diseases (2.5) a. Pneumonia 1) Nursing care b. Emphysema 1) Nursing care c. Asthma 1) Nursing care d. Tuberculosis 1) Nursing care	Write nursing care plan for patient with a respiratory disease.
4. Respiratory Treatments (0.5) a. Oxygen therapy b. Postural drainage c. Sputum specimen	1. Prepare an oxygen cylinder for use. 2. Use a nasal cannula. 3. Use a face mask. 4. Collect a sputum specimen.

UNIT 18-CARE OF THE DYING PATIENT
(10 hours)

1. Cancer (2.5) a. Risk factors b. Warning signals c. Prevention 1) Breast self-exam d. Treatments e. Nursing care	1. Identify risk factors for cancer. 2. Identify cancer "warning signals". 3. Describe "early detection" program of personal health care.

2. Death and Dying (7.5)
   a. Personal attitudes and beliefs
   b. Grief process
   c. Care of the dying patient
      1) Physical
      2) Emotional
      3) Social
      4) Spiritual
   d. Post-mortem care

1. Write essay on personal beliefs and feelings about death.
2. Describe the grief process
3. Care for the dying patient.

UNIT 19 - ORIENTATION TO CLINICAL EXPERIENCE
(5 hours)

1. In-School Orientation (5.0)
   a. Clinical policies
      1) Attendance
      2) Certificate of Competency
      3) Dress code
      4) Professional behavior
   b. Nursing care plan
      1) Patient assignments
      2) Sources of information
      3) Due dates
   c. Charting forms
   d. Daily evaluation form
   e. Other clinical assignments
      1) Team leader/float
      2) Physical therapy
      3) Recreation therapy
      4) 1-to-1 reality orientation
      5) Other
   f. Over-all schedule
   g. Anxiety
      1) Normal
      2) Causes
      3) Ways to reduce

1. Follows policies.
2. Writes nursing care plan for each assigned patient.
3. Fills out daily evaluation form and discusses with instructor.
4. Asks questions if in doubt.

UNIT 20 - CLINICAL EXPERIENCE
(160 hours)

1. Clinical Experience a. On-site orientation b. Direct nursing c. Related care experiences 1) Physical therapy 2) Recreation therapy 3) Team leader/float 4) Other	1. Give nursing care to three different patients. (One patient per two/three week period.) 2. Work with physical therapy personnel. 3. Work with recreational therapy personnel.

UNIT 21 - LEADERSHIP AND INDEPENDENT STUDY
(43 hours)

1. Leadership Projects (as decided by students)	Develop ability to work well and successfully with others and reach an agreed upon goal.
2. Independent Study (as decided by students)	Develop ability to work alone without supervision and reach a goal agreed upon by student and teacher.

VI. TYPE OF INSTRUCTION AND COORDINATION OF OCCUPATIONAL EXPERIENCE

Instruction will take place in the classroom, attached lab area and clinical facility. During the first semester, students will study, discuss, practice, and be tested upon the basic nursing skills indentified in this report. This will occur in the classroom and attached lab area. During the second semester students will give basic nursing care to assigned patients at a local nursing home. In both the classroom/lab and the clinical facility, the students will be under the direct supervision of the instructor who is both vocationally certified by the SPI and a registered nurse. The clinical experience is further evaluated by the staff at the advisory board meetings.

VII. ADVISORY COMMITTEE

A special Skills Center Advisory Committee was formed to help develop the original educational specifications for this class. The following were members of that group which met between September 1981 and May 1982:

NAME	JOB LOCATION
Dr. Gregory Camp	Internal Medicine
Chris Farnsworth, RN	Clark College
Sharon Hendrickson, CNA	Columbia View Manor
Vicky Jackson	Ft. Vancouver Nursing Home
Sharon Hull, RN	Emerald Terrace
Pat Kiernan, RN	Columbia View Manor
Kathy New, RN	Vancouver Memorial Hospital
Beth North, CNA	Highland Terrace
Roberta Rockwell, RN	Highland Terrace
Gerald Parmantier, RN	Instructor, Evergreen H.S.

VIII. PROGRAM ACTIVITIES

1. Classroom learning activities
   a. Lecture
   b. Discussion
   c. A/V

2. Laboratory learning activities
   a. Observing demonstration
   b. Practice of skills

3. Clinical learning activities
   a. Local health-care facility

4. Private counseling of students

5. Individual projects and independent learning

CLARK COUNTY VOCATIONAL SKILLS CENTER
NURSING ASSISTANT PROGRAM

XI. SPACE NEEDS

1.	Rooms and Square foot Areas	
	a. Laboratory	828 sq. ft.
	1) (5) patient care areas (open)	
	2) Clean utility area (open)	
	3) Dirty utility area (open)	
	4) Patient bathroom (enclosed)	
2.	Classroom	576 sq. ft.
3.	Storage Room	120 sq. ft.
4.	Office	140 sq. ft.
	a. Locked door	
	b. Window to classroom/lab areas	
5.	Toilet Area	60 sq. ft.
6.	TOTAL SQUARE FEET	1,724 sq. ft.

X. GENERAL JOB EXPECTANCIES - CLASSROOM INSTRUCTOR

Under the supervision of the director and/or his designee, the instructor plans, organizes, presents, and evaluates a program of meaningful instruction to students in the areas assigned to him.

1. Instructs the classes and students assigned in the location and at the time designated.

2. Develops and implements a competency based, individualized training program using a wide variety of instructional techniques and media and develops written evidence of preparation when requested.

3. Maintains a classroom environment conducive to effective learning within the limits of resources made available to them and demonstrates a positive model to students.

4. Aids students to maintain standards and follow acceptaqble rules of conduct and safety.

5. Provides training which meets the needs of industry and prepares students to successfully enter the job market.

6. Provides safety training and takes reasonable precautions to protect students, equipment, materials, and the school plant.

Prepared by Gerald Parmantier, R.N. G-22 August 1983

7. Takes time for planning, evaluation, student conferencing, and professional development.

8. Provides continuous student evaluation consistent with established program goals and Skills Center policy.

9. Maintains accurate records as required by law, district policy, and Skills Center regulations.

10. Upholds and enforces school rules, administrative regulations, and Board policies.

11. Attends and participates in called meetings, except under emergency conditions, and cooperates with other staff members in planning student activities.

12. Accepts reasonable share of responsibility for the general operation of the school program and provides for positive experiences and expectations.

13. Plans and implements leadership development activities utilizing State Youth Leadership format as much as possible (VICA, FBLA).

14. Works closely waith business and industry faor program direction and input. Provides leadership to an active advisory committee.

15. Assists students with job placement and maintains follow-up for at least five years.

16. Assists in the development and maintenance of Skills Center policies and procedures and program budget.

17. Works with cooperating high schools in program promotion and students recruitment.

18. Keeps current professionally by taking related courses, returning to business during the summers, and maintaining involvement in professional organizations.

XI. JOB PLACEMENT AND FOLLOW-UP

When students graduate from the program, they are certified nursing assistants. They easily find employment in the local nursing homes whose staff have seen our students during their clinical experience there or have had former graduates of the program employed in their facilities. The instructor surveys all nursing homes in the area to determine student employment as well as obtain staff comments about their performance on the job. The instructor also surveys students every year. Much information is obtained by visiting the facilities. The CCVSC counselor will also do follow-up surveys.

WORD PROCESSING

I. OCCUPATIONAL IDENTIFICATION

This is a one-year course of study for juniors and/or seniors who have made an occupational choice which is suited to their needs and who have the interest and ability to benefit from such instruction.

The course provides a continuous three-hour block of time in laboratory and related classroom instruction. The laboratory and related instruction shall be based upon an occupational analysis which includes the skills, attitudes, and knowledge required to achieve the instructional objectives for the program. The basic principles of language arts, student leadership, and related theory are integrated into the word processing program curriculum.

The Dictionary of Occupational Titles is lacking modern titles for today's word processing employees. However, a graduate of this program will be eligible for the following occupations:

Job Title	D.O.T. Number
Magnetic Tape Typewriter Operator	203.582-034
Secretary	201.362-030
Terminal System Operator	203.362-018
Terminal Operator	203.582-054
Transcribing Machine Operator	203.582-058
Typist	203.582-066

The Association of Information Systems Professionals provides the following job titles and descriptions for word processing personnel. A graduate of this program would be eligible for the following two positions.

Word Processing Trainee Entry level position for those having 1-12 months word processing experience. Must have adequate typing skills, good knowledge of grammar, punctation, spelling and formatting, the ability to use dictionaries, handbooks and other reference materials, and be oriented toward teamwork and the use of machines. A trainee's functions include routine transcription ad manipulation of text from various types of source information (dictation, handwritten, etc.). Maintains own production records and may be required to proofread own work.

Word Processing Operator The next level up from Word Processing Trainee for those having 6-24 months word processing experience. In addition to having all the qualifications and functions of a Trainee, a Word Processing Operator handles special documents, meets eestablished quality standards, uses alll of a machine's text editing functions and is familiar with department terminology and company practices.

Other job titles and descriptions for employees with more experience include:

Word Processing Specialist I
Word Processing Specialist II/Assistant Supervisor
Word Processing Trainer
Proofreader
Word Processing Supervisor
Word Processing Manager
Staff Analyst
Information Manager

II. NEED

"The number of typists is expected to grow about as fast as average for all occupations through the 1980's . . . . Many employers will prefer typists who are familiar with word processing equipment."[1]

The Word Processing Advisory Committee unanimously agreed to the need for a Word Processing Program at the Clark County Vocational Skills Center. They expressed a strong need for additional word processing technicians in the area. Employment in the field in the Portland area is expected to increase by four percent by 1985.

III. STUDENT CHARACTERISTICS

The program will be open to students in the eleventh and/or twelfth grades who have an interest and ability to benefit from such training. They should have a strong interest in word processing. They will have the recommendation and approval of vocational counselors and/or a vocational teacher in their chosen area.

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[1] Occupational Outlook Handbook, U.S. Department of Labor, Bureau of Statistics, March 1980, Page 95.

IV. OBJECTIVES AND JOB COMPETENCIES

As a result of this instruction and supervised practice, the student shall:

1. Demonstrate a high level of competency in the skills, techniques, and processes used as a word processing operator.
2. Exhibit a safety awareness which is reflected in good work habits including cleanliness, orderliness, and habits of safe practice.
3. Demonstrate the ability to properly manipulate and care for the word processing/office equipment which is necessary for safe and correct usage.
4. Exhibit qualities of self-confidence, initiative, excellence in performance, a cooperative attitude, and an appreciation of craftsmanship as needed for successful employment.
5. Exhibit qualities of leadership for effective participation in the various organizations affiliated with the word processing industry.
6. Exhibit an awareness and an understanding of the necessity and value of continuing education.
7. Develop an awareness of the word processing field and career progressions.
8. Develop job seeking skills such as resume preparation, job application, and job interview.
9. Develop communication skills for successful employment.
10. Develop student leadership skills including the ability to lead and follow, organize and conduct group activities, prioritize, design long and short range goals, and the ability to make decisions.
11. Demonstrate proper hygiene in relation to oneself and word processing/office equipment.
12. Operate and care for equipment used in word processing.
13. Understand basic word processing concepts and terminology.
14. Demonstrate management of time, space, equipment and supplies related to an efficient and profitable organization.

15. Discuss how to establish good rapport between employer and employee, between other employees, and with clients and users.

16. Demonstrate how to plan and organize a work schedule.

17. Exhibit abilities to serve clients requiring word processing/ secretarial services.

18. Observe and practice proper safety habits around computer hardware and electrical outlets.

19. Demonstrate the ability to take work orders.

20. Demonstrate the ability to read work orders and follow directions.

21. List basic concepts of the free enterprise system.

22. Demonstrate the ability to operate various brands of word processing equipment.

23. Demonstrate the ability to complete various industry sample projects.

24. Discuss current technology and trends in office automation.

25. Demonstrate a keyboarding word per minute rate of 50.

26. Exhibit necessary work ethics.

CLARK COUNTY VOCATIONAL SKILLS CENTER
WORD PROCESSING PROGRAM

V. CURRICULUM CONTENT

COURSE INTRODUCTION
(10 hours)

A. Grading

1.	Classroom assignments	35%
2.	Tests/quizzes	15
3.	Outside reading	10
4.	Career Development	15
5.	Work habits/attitude	10
6.	Attendance	15

The student will be familiar with the program grading policy.

B. Safety
1. Safety policy and procedures
2. Unsafe acts and conditions
3. Safety precautions

The student will display safety consciousness by operating equipment correctly and safely.

C. Word Processsing Concepts & History
1. Definition
2. History
3. Cycle
4. Components
5. System configurations
6. Features
7. Uses
8. Advantages/disadvantages

The student will demonstrate basic word processing concepts and terminology through written and oral evaluation

D. Outside Reading
1. Publications/Articles
2. Book reports

The student will discuss current technology and trends in office automation.

CAREER DEVELOPMENT
(90 hours)

A. Student Organizations
1. FBLA
   a. Organization
      1) Officers
      2) Committees
      3) Classroom/Lab Management
   b. Program of Work
   c. Competitions

The student will describe the structure of FBLA. Each student will participate in a committee.

2. Committees
   a. Types
      1) Standing
      2) Special
   b. Ingredients
      1) Members
      2) Purpose
      3) Time to Report

The student shall: distinguish between standing and special committees; list the purposes of each type of committee; know the 3 main requirements used in forming a committee; serve on a committee.

c. Organizational Structure
   1) Chairman
   2) Secretary
   3) Sub Committee

3. Parlimentary Procedures

The student shall: state the reason for an agenda; develop an agenda using correct format; state when to distribute an agenda; learn the proper contents in writing minutes for a meeting; record a set of minutes at a meeting; state the purpose of each procedure; use the proper terminology in an actual meeting.

   a. Agenda
      1) Purpose
      2) Content
      3) When to Distribute
   b. Minutes of the Meeting
      1) Contents
      2) Format
   c. Procedures
      1) Adjournment
      2) To rise to a question of privilege
      3) To lay on the table
      4) To call for the previous question
      5) To refer to a committee
      6) To amend a main motion (to amend an amendment)
      7) Main motions
      8) To take from the table
      9) To rise to a point of order
      10) To rise to parlimentary inquiry
      11) To appeal from the decision of the chair
      12) To call for a division of the house
   d. Handling Motions

B. Human Relations

The student will look and feel like a successful individual.

   1. Presentation
      a. Posture
      b. Clothing
      c. Personal grooming
      d. Verbal and non-verbal communication skills (See Unit C on Communications)

The student will demonstrate a cooperative attitude in the classroom.

   2. Cooperation
      a. Being accepted
      b. Observing rules
      c. Carrying your own weight
      d. Don't impose on others
      e. Developing tolerance
      f. Tips on getting along
         1) Accept praise gracefully
         2) Share the credit
         3) Flatter people sincerely
         4) Don't flaunt special privileges
         5) Let everyone be a winner

BEST COPY AVAILABLE

- g. Teamwork
  - 1) Sharing/delegating responsibilities
  - 2) Rewards/recognition

3. Problem Solving
   - a. Identifying conflict
   - b. Gaining empathy
   - c. Maintaining integrity
   - d. Conflict resolution
     - 1) Identifying alternative
     - 2) Considering consequences
     - 3) Troubleshooting questions
   - e. Negotiating
   - f. Reaching a decision
   - g. Evaluation

   The student will list logical problem solving techniques.

4. Self Esteem
   - a. Achievement
   - b. Recognition
   - c. Interest in work
   - d. Responsibility
   - e. Possibility for growth and advancement

   The student will state the values of having self respect and good self concept.

5. Self Assessment
   - a. Who are you?
   - b. Value system
   - c. Liking yourself
   - d. Relationships
   - e. Recognize work style

   The student will describe a strategy for building self confidence.

6. Goal setting
   - a. Short and long term goals
   - b. Goal setting guidelines
   - c. Priority setting
   - d. Changing priorities
   - e. Making trade-offs

   The student will list long and short term goals.

7. Group Leadership
   - a. Identifying leader qualities
   - b. Leadership styles
     - 1) Dictator approach
     - 2) Motivational approach
     - 3) Laissez-Faire approach

   The student will demonstrate leadership through role playing.

8. Labor/Management Relations
   - a. Understanding an employer
   - b. What an employer expects from an employee
   - c. What it's like to be an employer
   - d. Labor unions

   The student will have an understanding of both labor and management and an empathy for both.

9. Social Skills
   - a. Manners
     - 1) handshaking
     - 2) introductions
   - b. Table manners
   - c. Common courtesies

   The student will demonstrate attributes of a socially accepted successful professional.

C. Communications

1. Listening
   - a. Recognizing bad listening habits
   - b. Acting like a good listener
   - c. Listening to understand
   - d. Responding to verbal communication

The student will explain and practice acting like a good listener and listening to understand.

2. Speaking
   - a. Keys to effectiveness
   - b. Tone of voice
   - c. Giving directions
   - d. Courteous introduction
   - e. Interrupting
   - f. Answering telephone
   - g. Answering client questions
   - h. Reporting condition to supervisor

The student will explain and practice speaking in listed situations.

3. Non-Verbal
   - a. Body language
   - b. Behavior
   - c. Appearance
   - d. Facial expression
   - e. Positive and negative gestures
   - f. Responding to non-verbal communication

The student will explain the importance of non-verbal communication and provide examples.

D. Professional Ethics

1. Occupational Code of Ethics
2. Need for ethics

The student will practice sound judgement through classroom activities.

E. Time Management

1. Time Wasters
   - a. Phone calls
   - b. Inability to say "no"
   - c. Unclear goals
   - d. Apathy
   - e. Interruptions
   - f. Procrastination

The student will be able to analyze time losses by completion of a daily time log. The student will list ten time wasters and methods to correct these wasters.

2. Set Goals for Your Time
   - a. Daily
   - b. Weekly
   - c. Monthly

The student will write down two goals aimed at better use of his/her time.

3. Get a Grip on Time
   - a. Get organized
   - b. Eliminate time barriers

The student will demonstrate improved time management by completing and following a one week time plan.

4. Time Saving Tips and Strategies

The student will list ten time saving tips.

F. Transactional Analysis

1. Maturity
   a. Think and act as adults
   b. Make comparisons of attitudes
   c. Create business environment
   d. Responsibilities of adulthood
      1) Financial
      2) Emotional
      3) Scholastic

The student will develop the ability to converse and get along with others. Aware and able to "cope" with people and understand their problems. Use diplomacy in alleviating problems or potential problems.

2. Initiative and Motivation
   a. Provide proper directions
   b. Clearly state the rewards
   c. Have clear-cut goals
   d. Give precise instructions
   e. Be thorough
   f. Be a good "sounding board"

Student is inquisitive and explores alternate solutions. Constantly seeking new knowledge. Develop a committment to school and work world.

3. Self Discipline and Responsibility
   a. Be a good example
   b. Clearly state the rules
   c. Display trust and reliability
   d. Delegate responsibility
   e. Be consistent and sincere

The student will be able to diplomatically accept and correct situations as a result of constructive criticism. Ability to monitor and schedule time effectively, and to proceed with little or no supervision.

4. Five Steps to Learning
   a. Develop interest
   b. Create desire
   c. Which develops into enthusiasm
   d. And gets results
   e. Reinforcement and praise create inertia

G. Job Finding Skills

1. Analyze Job Market
   a. Job requirements
   b. Projected growth
   c. Career progressions
   d. Personal goals
   e. Skills assessment

The student will demonstrate the ability to research the needs of the industry and personal needs and goals.

2. Job Search
   a. Newspaper
   b. Yellow pages
   c. Trade journals and business publications
   d. Network - word of mouth
   e. Employment offices
   f. Vocational instructors

The student will research available sources and will list all possible job opportunities.

3. Resume
   a. Describe resume function
   b. Essentials of resume
   c. Preparation techniques

4. Application Forms/ Cover & Follow-Up Letters

The student will write a resume that would be acceptable to an employer in the particular career. The student will successcomplete an application form and compose suitable career search correspondence.

5. Personal Appearance
   a. Cleanliness
   b. Grooming
   c. Dress
   d. Posture
   e. Image projection

   The student will demonstrate acceptable appearance when applying for a job.

6. Selling Oneself/Interview Techniques
   a. Communicate
   b. Research interviewing employer

   The student will demonstrate leadership skills while practicing the personal interview.

7. CCVSC Follow Up & Placement Procedures

   The student will understand follow up and placement procedures.

BASIC TEXT ENTRY
(20 hours)

A. Information Processing (Book 1)
   1. Exxon 500 Information Processor
   2. Basic components
   3. Operating the information processor

   The student will be familiar with basic machine operation.

B. Typing (Book 2)
   1. Formatting text
      a. Margins, tabs, indents
   2. Typing/Entering text
      a. Wordwrap
      b. Page breaks
      c. Centering
      d. Underlining
   3. Editing text
      a. Locating text
      b. Insert/delete
      c. Adjusting
      d. Hyphenation
   4. Review of Filing Procedures
      a. Storing and filing
      b. Updating documents
      c. Index functions
      d. Filing cabinets
         1) Wastebasket
         2) Mailbox
         3) Private
         4) Other

   The student will demonstrate the ability to enter letters and reports on the word processing system.

C. Advanced Formatting and Editing (Book 3)
   1. First line format menu
      a. General information
      b. Pagination
      c. Footnotes
      d. Printing information

   The student will apply these features to document creation and editing.

2. Variable Line Format
   a. Horizontal/vertical formatting
   b. Appearance of text
3. Revising blocks of text
   a. Defining block
   b. Select appropriate option
4. Search and Replace
   a. Applications
   b. Options
5. Paginating a Document

D. Printing (Book 4)

The student will utilize printer features for varied individual documents.

1. Printing selections
   a. Bold
   b. Optional
   c. Block print
   d. Printer status menu
2. Printing applications
   a. All/portions of document
   b. Print from screen/index
   c. Direct typewriter
3. Printing special characters
   a. Required backspace and overstrike
   b. Bold
   c. Sub and superscript
   d. Optional
   e. Stop code
4. Printer Maintenance
   a. Parts
   b. Ribbon cartridge
   c. Printwheel

The student will perform routine printer maintenance.

E. Reformatting (Book 5)

The student will demonstrate the ability to reformat all or portions of text.

1. Trace mode
   a. Format, center & form markers
   b. Soft hyphens
2. Format revision
   a. Line spacing
   b. Margins
   c. Indents
3. Justified text
   a. All/portions

ADVANCED TEXT ENTRY/EDITING
(70 hours)

A. Longer Documents (Book 6)

The student will successfully complete a 4-6 page

1. Headers and Footers
2. Footnotes report.

B. Filing and Disk Management (Book 8)
   1. Document management
   2. Disk management
   3. Changing default settings
   4. System Security

The student will apply effective disk management principles to routine classroom work.

C. Special Features (Book 7)
   1. Glossary
   2. Document Assembly
   3. Dictionary

The student will utilize these system features on a routine basis, as needed.

D. Columns, Math and Line Drawing (Book 9)
   1. Columns/tables/statistical work
   2. Math
      a. Precision
      b. Calculator
      c. Vertical
      d. Horizontal
   3. Line Drawing

The student will produce documents such as financial statements; statistical tables; and bar, flow and organizational charts.

SPECIALIZED SOFTWARE APPLICATIONS
(30 hours)

A. Records Processing (Books 11-12)
   1. Creating a records list
   2. Merging documents
   3. Creating reports
   4. Performing a selective merge
   5. Sorting a records list

Given worksheets and time on the equipment, the student will demonstrate the successful completion of records processing applications.

B. CP/M®
   1. Visicalc
   2. Other software programs

The student will solve various procedural functions by utilizing CP/M®.

C. Forms (Book 10)
   1. Identify blank areas (Ruler pattern)
   2. Create template
   3. Fill in form
   4. Print and store

The student will organize and finalize information on various forms.

D. Keystroke Sequencing
   1. When to use
   2. Writing programs
   3. Math programs

The student will interrelate previous learning experiences to these more sophisticated methods of document creation and manipulation.

E. Electronic Communications
   1. Telecommunications
      a. Asynchronous
      b. Bisynchronous
   2. Telex, TWX, and Mailgrams

The student will successfully communicate via electronic means with other computer systems.

F. Supervisory Capabilities
   1. SYAD Terminal
   2. Maintenance mode
   3. Manipulating print queues
   4. Backup procedures

The student will perform supervisory capabilities with direct supervision.

LANGUAGE ARTS
(60 hours)

A. Grammar/Usage
   1. Subjects and verbs
   2. Pronouns
   3. Adjectives and Adverbs
   4. Negatives
   5. Prepositions
   6. Sentence Structure

The student will demonstrate proper grammar usage through review instruction and continual monitoring on all course work.

B. Punctuation
   1. Period
   2. Question mark
   3. Exclamation point
   4. Comma
   5. Colon/semicolon
   6. Other marks

C. Capitalization

D. Numbers

E. Abbreviations

F. Plurals and possessives

PROOFREADING
(20 hours)

A. Standard Proofreading Marks

The student will identify and use the industry standards.

B. Types of Proofreading Errors
   1. Content
   2. Grammar
   3. Format/appearance
   4. Typographical errors
   5. Inconsistencies

The student will discover diversified types of proofreading errors.

C. Locating Errors

The student will differentiate between correct and incorrect choices.

D. Methods of Proofreading
1. Spelling software
2. Ruler method
3. Read aloud
4. Read backward
5. Team method
6. Comparative method
7. Check placement/appearance

The student will utilize the most appropriate method for a variety of documents.

E. Proofreading Resources/References
1. Word division guide
2. Dictionary
3. Grammatical reference book
4. Office manual
5. Other reference sources
6. Thesaurus

The student will compare the document with recognized resources and apply the appropriate rule.

F. Editing
1. Minor changes
2. Major revisions

The student will apply proofreading, business communications, and spelling abilities to reproduce more acceptable documents.

SPELLING/VOCABULARY
(30 hours)

A. Spelling guides/rules
1. Homonyms
2. Troublesome words
3. Compound words
   a. Prefixes/suffixes
   b. Compound nouns, verbs, adjectives

The student will demonstrate correct spelling and increased vocabulary through scheduled spelling/vocabulary tests and review of spelling concepts.

B. Word Division

C. Vocabulary
1. Word usage
2. Word processing terminology
3. Increasing vocabulary

KEYBOARDING
(20 hours)

A. Reviewing the keyboard
   1. Alphabetic characters
   2. Numbers
   3. Symbols

The student will review the keyboard to assist in automotizing key locations.

B. The 10-key numeric pad

The student will utilize the 10-key pad through classroom drills and document creation.

C. Keyboarding Drills
   1. Accuracy drills
   2. Speed drills

The student will demonstrate at least a 20% increase in keyboarding speed through timed tests and classroom assignments.

BUSINESS COMMUNICATIONS
(20 hours)

A. Composing business correspondence
   1. Business letters
   2. Reports
   3. Proposals
   4. Meeting minutes

The student will create effective, cohesive, and concise business correspondence.

B. Telephone etiquette
   1. Telephone manners
   2. Incoming calls
   3. Outgoing calls

The student will demonstrate proper telephone techniques.

DICTATION/TRANSCRIPTION
(40 hours)

A. Voice storage media
   1. Internal
   2. Discrete

The student will be familiar with various forms of dictation equipment.

B. Dictation machines
   1. Portable
   2. Desktop
   3. Central recording
      a. Endless loop
      b. Multiple cassette
      c. Supervisor's control
      d. Computer aided

The student will utilize the phone-in system in the classroom.

C. Transcription
   1. Transcription equipment
   2. Organization for transcription
   3. Instructions for transcribing
   4. Practical applications

The student will successfully operate transcription equipment to produce mailable documents.

OFFICE ORGANIZATION AND EQUIPMENT CONFIGURATIONS
(5 hours)

A. Centralized Word Processing
   1. Specialization
   2. Equipment selection
   3. Work flow
   4. Center supervisor and operator
   5. Office design
   6. Pro and con

The student will list the ways in which automated offices are organized, and identify characteristics of organizational structure.

B. Decentralized Word Processing
   1. Satellites
   2. Work flow
   3. Satellite operators
   4. Satellite design and equipment
   5. Pro and con

C. Word Processing in a Traditional Setting
   1. Office layout
   2. Work flow
   3. Secretarial responsibilities
   4. Pro and con

D. Office Ergonomics
   1. Office landscaping and design
   2. Equipment design
   3. Lighting
   4. Noise control
   5. Temperature
   6. Humidity
   7. Space planning

The student will list the factors ergonomists consider in office design and judge a variety of office plans for logical, efficient use.

E. System Configurations
   1. Standalones
   2. Shared systems
   3. Shared resource
   3. Time-sharing

The student will distinguish between different system configurations and cite the advantages and disadvantages of each.

CLARK COUNTY VOCATIONAL SKILLS CENTER
WORD PROCESSING PROGRAM

PLANNING A WORD PROCESSING CENTER
(10 hours)

A. Planning the System
   1. Identifying goals and objectives
   2. Developing project team
   3. Defining user needs
   4. Feasibility study
   5. Interviewing techniques
   6. Planning and reporting

The student will formulate a written proposal for developing a word processing center.

B. Selecting the proper system
   1. Determining elements and components
   2. Matching needs to features
   3. Organizations concepts

The student will prepare written logical conclusions given a variety of situations.

C. Equipment Selection
   1. Input equipment
   2. Processing equipment
      a. Automatic typewriters
      b. Electronic typewriters
      c. Standalone systems
      d. Video display systems
      e. Shared logic systems
      f. Shared resource systems
      g. Cluster systems
   3. Storage equipment
   4. Output equipment
   5. Vendor evaluations
   6. Vendor and equipment price and feature analysis

The student will contact various vendors to evaluate equipment capabilities and will prepare equipment specifications.

D. Optional Equipment Considerations
   1. Facsimile transmission
   2. Telecommunications
   3. Voice input/output
   4. Graphics
   5. Photocopying
   6. Equipment and vendor compatability

The student will have a familiarity with optional equipment capabilities.

IMPLEMENTING A WORD PROCESSING CENTER
(10 hours)

A. Work Flow
   1. Pending
   2. In progress
   3. Proofreading
   4. Revising
   5. Final proofing
   6. Pricing/log sheet
   7. Completed

The students will collectively implement a revenue producing word processing service bureau.

Prepared by Di[illegible]

B. Prioritizing/Handling Rush Projects

C. Designing the forms

D. Developing the user manual

E. Training the user

F. Developing the operational manual

G. Evaluating the system

H. Staffing the center
   1. Determining needs
   2. Selecting qualified personnel
   3. Job descriptions
   4. Training
   5. Motivation/productivity
   6. Team operation

I. Ordering supplies

J. Profit and loss

USING OTHER BRANDS OF WORD PROCESSORS
(65 hours)

The student will transfer text editing skills to a variety of system architectures.

A. Menu based equipment
   1. System logic
   2. Entry
   3. Revision
   4. Printing
   5. Filing
   6. Advanced applications

B. Coded equipment
   1. System logic
   2. Entry
   3. Revision
   4. Printing
   5. Filing
   6. Advanced applications

C. Software packages on microcomputers
   1. System logic
   2. Entry
   3. Revision
   4. Printing
   5. Filing
   6. Advanced applications

SPECIALIZED TECHNICAL APPLICATIONS
(20 hours)

A. Legal
B. Medical
C. Engineering
D. Scientific

The student will choose one of these areas to complete optional word processing applications in this specialized field.

RELATED TECHNICAL FIELDS
(20 hours)

A. Data Processing
B. Electronics
C. Micrographics
D. Phototypesetting

The student will provide a written summary of these related fields.

VI. TYPE OF INSTRUCTION

Instruction will include 540 hours per year of classroom experience with accompanying lab experiences. Lectures, labs, simulations, audio-visual aids and demonstrations will be utilized to meet the stated objectives. To provide realistic training experiences, the Skills Center word processing center will act as a service bureau for the entire skills center administration and other school district personnel.

VII. FACILITIES

A total area of 2020 square feet is provided for word processing instruction.

This includes a 100 square foot office for the instructor, 100 square foot lockable storage room and a 20 square foot student locker area. The 810 square foot classroom area is equipped with chalkboard, bulletin boards, bookcases, cupboards and an overhead projector and screen. Ten 30" x 60" tables and 24 chairs are provided.

The 870 square foot lab area is equipped with chalkboard, bulletin boards, bookcases, file cabinet and cupboards. Twenty-four 30" x 48" oak laminate workstations are equipped with 48" high partitions and 10" x 24" dropped platforms for the word processors' movable keyboards. The design was chosen to simulate an office atmosphere while remaining sturdy and functional for classroom use. Ergonomically designed gas cylinder chairs with fabric cushions are provided for each work area. Dedicated, isolated power and equipment cabling is accomplished via ceiling power poles. Six matching printer stands are included. Copy stands are provided for each work area.

Two small dictation rooms with desks will serve as study areas, proof-reading rooms, reference areas, or testing rooms.

Equipment for the Word Processing Program was purchased from Exxon Office Systems. This equipment has detachable, movable keyboards and tilt, swivel CRT's. Sixteen terminals work from an 8421 Controller. Three letter quality printers are utilized to share printing needs. One printer is a manual feed, one is a tractor feed, and one is equipped with a twin sheet feeder. Additionally, 2 Exxon standalone units are provided. These two terminals share an Exxon ink jet printer with a twin sheet feeder. The standalone units are wired for telecommunications with the shared system. Training manuals and materials from Exxon will be used.

It is anticipated that two additional units will be provided, making a total of 20 workstations in the Word Processing Center. One of these standalones will be a menu based, document oriented system with a dedicated printer. The other unit will be a mnemonic, coded system.

A Dictaphone Model 192 Thought Tank phone in dictation system is available in the classroom. This unit is utilized by students, Skills Center staff, and other school district personnel. Twelve Dictaphone transcription units will be shared by the students. Dictation/ Transcription course materials from Dictaphone will be incorporated into the curriculum.

Two Sharp electronic calculators are also provided in the classroom along with traditional office supplies.

XIII. ADVISORY BOARD

The word processing advisory board met on a regular basis during the planning of the facility, program, and curriculum. Members are:

Name	Job Title	Representing: Employer	Employee
Jacqueline Joner	PUD WP Supervisor	X	
Clarice Ritter	Crown Z WP Supervisor		X
Gail Bridenbecker	Columbia Machine WP Supervisor		X
Virginia Young	Self employed		X
Vicki Hansen	Exxon Branch Manager	X	
Melanie Young	Clark College Instructor	X	
Jane Scott	Columbia River HS Instructor	X	
Ralph VonKaenel	Camas HS Instructor	X	
Cheryl Mayo	Battle Ground HS Instructor	X	
Nyla Cobble	Prairie HS Instructor	X	

Minutes of the advisory committee are included. Continuing advise and counsel will be sought by continuation of the advisory committee, by adding members so the industry is well represented in both employer and employee areas, and by having quarterly meetings. Due to the special aspects of being a Skills Center, other ex-officio members will be consulted on a yearly basis, namely additional educators in each of the feeder high schools and in the community college.

IX. INSTRUCTOR'S JOB DESCRIPTION

INFORMATION/WORD PROCESSING TECHNOLOGY INSTRUCTOR

Instruct high school juniors and seniors in skills leading to entry level employment in word processing/secretarial fields or leading to continuing higher education. In-depth instruction will include three hours of classroom and laboratory activities. The instructor will work closely with industry groups and a representative advisory committee in developing the program curriculum and in the placement of program completors in jobs.

QUALIFICATIONS

1. Minimum 5 years varied word processing secretarial experience. Experience on at least two different word processing systems; possess knowledge and skill in word processing, data processing, records management and office terminology.

2. Qualifies for or willing to meet qualifications for vocational teaching certificate.

3. Supervisory experience and/or teaching experience preferred.

4. Demonstrated ability to relate to young people.

5. Demonstrated skills in human relations.

6. Demonstrated ability to be organized.

7. Ability to perform routine basic maintenance on information processing and office equipment.

8. Interest in student leadership development.

9. Demonstrated professional growth through participation in in-service and professional organization involvement.

PERFORMANCE RESPONSIBILITIES

1. Provide sound learning environment and instructional program.

2. Teach one or two sections, depending on enrollment.

3. Develop and update curriculum competencies, working in cooperation with an industry advisory committee.

4. Work with other instructors in the sending high schools or at the community college to maintain a good working relationship and a positive Skills Center image.

5. Provide the development of student leadership, an understanding of the free enterprise system, and human relations as an integral part of the curriculum.

6. Work with cooperating high schools in program promotion and student recruitment.

7. Maintain individual student records and report progress to appropriate personnel.

8. Develop, meet with, and maintain an effective advisory committee.

9. Assume supervisory (student) responsibilities as assigned.

10. Organize, manage, and appropriately maintain the instructional facility, equipment, and resources which will serve as a positive model to students and provide for a safe working environment.

11. Keep current professionally by taking related courses, returning to business during the summer, and maintaining involvement in professional organizations.

12. Participate in inservice activities conducted by the Evergreen School District and the Skills Center Director.

13. Maintain contact with the industry through visitations.

14. Establish and work toward short- and long-term goals aimed at improving the program and instruction.

15. Perform other duties as assigned.

X. PLANS FOR JOB PLACEMENT & FOLLOW UP

The instructor, through industry contacts and the Skills Center vocational counselor/job development coordinator, will work to place students in jobs upon completion of the program. Follow-up will be completed on a 1-, 3-, and 5-year schedule.

Instructor _____ Date _____

Program: _____ Grade: _____ School: _____

Name: _____ Soc. Sec. No: _____ Phone: _____
Last Middle First

Address: _____ Date of Birth: ___-___-___ Age: _____ Sex: _____

In Case of Emergency, Contact: _____ Address: _____ Phone: _____

or

_____ Address: _____ Phone: _____

Insurance Co: _____ Insurance No: _____

Family Doctor: _____ Office Phone: _____ Home Phone: _____

Allergies/Handicaps: _____
(Please Specify)

The above information can be used for school records and/or to insure safety of students. This confidential information is not to be released to employers or the general public.

Date of Enrollment: ___-___-___ Total Class Hours: ____

Date of Withdrawal: ___-___-___ Total on-the-Job Training Hours: ____

Date of Completion: ___-___-___ Total Shop Hours: ____

Total Hours Absent: _____ Total Hours Tardy: ____

ON-JOB-TRAINING/WORK EXPERIENCE

Duration of Employment	Job Title	Supervisor's Name	Address of Employer	Phone

SPECIFIC JOB-COMPETENCIES

DIRECTIONS: Evaluate the Trainee using the rating scale below and check the appropriate number to indicate their degree of competency. The numerical ratings of 4, 3, 2 and 1 are not intended to represent the traditional school grading system of A, B, C and D. Ratings should reflect JOB READINESS for each of the tasks rather than the grade given in the class.

*Rating Scale: 4 - Skilled--can work independently with no supervision
3 - Moderately Skilled--can perform job completely with limited supervision
2 - Limited Skill--requires instruction and close supervision
1 - No exposure--no experience or knowledge in this area

SECTION I ORIENTATION

4 3 2 1

A. Food Service Industry
1. List food service operations in community
2. Analyze food service operation
3.

4 3 2 1

B. Human Relations
1. Discuss human relations situations
2. Analyze attitudes toward job situations
3. Complete attitude checklist for self
4. Complete self-analysis activities
5.

4 3 2 1

C. Appearance
1. Select good speech mannerisms
2. Identify grooming errors
3.

4 3 2 1

D. Teamwork
1. Discuss people affected in teams affecting teamwork
2. Discuss personal qualities of workers
3. Complete "How you get along with others" checklist

SECTION II EQUIPMENT

4 3 2 1

E. Hazardous & Less Hazardous Equipment
1. Operate and clean dish machine
2. Operate waste disposer
3. Operate and clean mixer
4. Operate and clean slicer
5. Operate and clean VCM
6. Operate and clean food chopper
7. Operate and clean deep fat fryer (gas and electric)
8. Operate and clean tilting brazier or skillet
9. Operate and clean steamer
10. Operate and clean steam jacketed kettle
11. Operate and clean meat tenderizer
12. Operate and clean steam table
13. Operate and clean conventional oven
14. Operate and clean convectional oven
15. Operate and clean microwave oven
16. Operate and clean rotary toaster
17. Operate and clean coffee equipment
18. Operate and clean range
19. Operate and clean broiler
20. Operate and clean grill
21. Operate portion scale
22. Operate and clean baker's scale
23. Operate platform scale
24. Clean baker's table
25. Clean can opener
26. Operate and clean blender
27. Clean milk dispenser

SECTION III SAFETY

4 3 2 1

F. Safe Work Habits
1. Complete safety checklist
2. Lift heavy items properly
3.

SECTION IV SANITATION

4 3 2 1

H. Personal Hygiene
1. Distinguish between good and poor appearance of food service worker
2. Wash hands
3. Taste food
4.

4 3 2 1

I. Housekeeping
1. Analyze sanitation violations
2. Wet mop a floor
3.

4 3 2 1

J. Food Handling & Storage
1. Complete chart on food handling and storage
2.

4 3 2 1

K. Common Food-Borne Illnesses
1. Discuss food illnesses
2. Discuss length of time held for menu items
3.

SECTION V PRODUCTION

4 3 2 1

L. Weights and Measures
1. Convert weights and measures
2.

4 3 2 1

M. Recipe Use
1. Convert weights and measures
2.

4 3 2 1

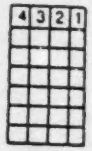
N. Personal Organization
1. Analyze work situation for a specific recipe
2.

4 3 2 1

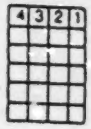
O. Soups
1. Compare cost of commercial and non-commercial beef bases
2. Prepare vegetable beef soup
3.

4 3 2 1

P. Sauces
1. Evaluate and prepare white cream sauce
2. Evaluate and prepare hollandaise sauce
3. Evaluate and prepare tomato sauce
4. Evaluate and prepare espagnole sauce
5. Evaluate and prepare veloute sauce
6.

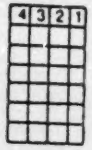


Q. Meat
1. Evaluate prepared beef
2. Prepare beef steak
3. Prepare veal cutlet cordon bleu
4. Prepare broiled lamb chops
5.



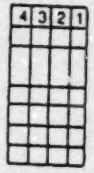
R. Poultry
1. Cut up whole chicken
2. Prepare deep fat fried chicken
3. Prepare a turkey
4.

S. Fish
1. Prepare fish fillets
2. Cut and prepare shrimp
3.

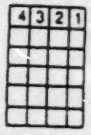


T. Eggs and Cheese
1. Prepare cheese omelet
2. Prepare scrambled eggs
3. Prepare fried egg
4. Prepare hard cooked egg
5.

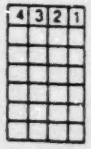
U. Rice and Pasta
1. Prepare rice pilaf
2. Prepare macaroni and cheese
3.



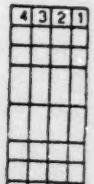
V. Vegetables
1. Compare quality of cooked vegetables
2. Prepare frozen carrots
3. Prepare canned carrots
4. Prepare fresh carrots
5.



W. Salads, Sandwiches and Fruits
1. Prepare fresh green salad
2. Prepare grilled cheese sandwich
3. Prepare cheeseburger
4.



X. Bread
1. Prepare yeast bread
2. Prepare muffins
3. Prepare baking powder biscuits
4. Prepare pizza dough
5.

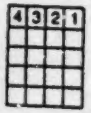


Y. Pastries
1. Evaluate and prepare pie crust
2. Evaluate and prepare cherry pie filling
3. Evaluate and prepare apple turnovers
4. Evaluate and prepare cream puffs
5. Evaluate and prepare eclairs
6.

Z. Cookies, Cakes and Icings
1. Prepare sponge cake using whipping method
2. Prepare yellow cake using blending method
3. Prepare yellow cake using creaming method
4. Prepare sugar cookies
5. Prepare white fudge frosting
6. Prepare chocolate chip cookies
7.

AA. Spices and Flavorings
1. Discuss different uses of spices
2.

BB. Breakfast Cookery
1. Arrange in order production sequence for breakfast
2.



CC. Beverages
1. Prepare coffee
2. Prepare iced tea
3.

SECTION VI PURCHASING

GG. Quantity Purchasing
1. Complete purchasing chart on amounts needed
2. Complete purchasing chart on amounts to order
3.

HH. Pre-Prepared Items
1. Compare costs of beef stews
2. Compare costs of spaghettis
3.

II. Inventory Standards and Controls
1. Complete inventory chart
2.

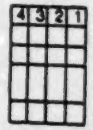
SECTION VII MENU PLANNING

KK. Planning Menus
1. Correct a menu
2.

LL. Costing
1. Cost a recipe
2.

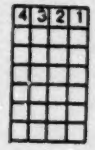
SECTION VIII SUPERVISION

MM. Scheduling
1. Interview a food service manager
2.



NN. Personnel Relationships
1. Complete employee evaluation
2. Analyze importance of employee needs
3.

OO. Keeping Records
1. Complete food service records for one week
2.



PP. Other
1.
2.
3.
4.
5.

MAJOR COMPETENCY AREAS

DIRECTIONS: Evaluate the Trainee using the rating scale below and check the appropriate number to indicate the degree of competency. The numerical ratings of 4, 3, 2 and 1 are not intended to represent the traditional school grading system of A, B, C and D. The descriptions associated with each of the numbers focus on level of student performance for each of the tasks listed below.

RATING SCALE:
4 - Skilled--can work independently with no supervision.
3 - Moderately Skilled--can perform job completely with limited supervision.
2 - Limited Skill--requires instruction and close supervision.
1 - No Exposure--no experience or knowledge in this area.

4	3	2	1	
				A: Food Service Industry
				B: Human Relations
				C: Appearance
				D: Teamwork
				E: Hazardous & Less Hazardous Equipment
				F: Safe Work Habits
				G: Dining Room Safety
				H: Personal Hygiene
				I: Housekeeping
				J: Food Handling & Storage
				K: Common Food-Borne Illnesses
				L: Weights and Measures
				M: Recipe Use
				N: Personal Organization
				O: Soups
				P: Sauces
				Q: Meat
				R: Poultry
				S: Fish
				T: Eggs and Cheese
				U: Rice and Pasta
				V: Vegetables
				W: Salads, Sandwiches & Fruits
				X: Bread
				Y: Pastries
				Z: Cookies, Cakes & Icings

4	3	2	1	
				AA: Spices & Flavorings
				BB: Breakfast Cookery
				CC: Beverages
				DD: Table Service
				EE: Table Setting
				GG: Quantity Purchasing
				HH: Pre-Prepared Items
				II: Inventory Standards & Controls
				JJ: Nutrition
				KK: Planning Menus
				LL: Costing
				MM: Scheduling
				NN: Personal Relationships
				OO: Keeping Records
				PP: _____
				QQ: _____

Student ratings on specific competencies evaluated during the course are available upon student's written request and/or by calling the instructor. Parent's or guardian's signature is necessary if student is under 18 years of age.

V. CONCLUSIONS

This project has made it possible to design eight competency based curriculums. The process has been invaluable in developing a common format which includes core curriculum units in work habits and leadership skills. We hope the model developed would be exportable to other area centers.